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City characteristics, migration, and urban development policies in India

Mahendra K. Premi
with Judith Ann L. Tom

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PREFACE

The first draft of this paper was prepared during 1980–81 while the first author was a research fellow at the East-West Population Institute. It was substantially revised during the summer of 1983. The paper was presented in two seminars—one at the National Institute of Urban Affairs, New Delhi, and the other at the Department of Demography, Australian National University, Canberra. It was further revised during June and July 1984 in the light of comments by the referees, other readers, and participants in two seminars.

We wish to thank both the East-West Population Institute and the Australian National University for providing necessary facilities for carrying out this research. We are grateful to James T. Fawcett for incorporating our research as part of the East-West Population Institute's program on Urbanization, Migration, and Development.

We are indebted to S.R. Srivastava, Poonam Natarajan, Jashomayee Devi, and several others who collected the necessary data for this project from the Directorates of Census Operations in the state capitals in India even before the data were formally published. Kusum Premi helped in transferring data to computer files, editing, and cleaning them, and we are grateful to her. We wish to thank Purveen Nangia and Zohair Anwar for preparing the diagrams and map. We also wish to thank for their valuable comments the four anonymous reviewers of the paper; certain other readers, especially Professors C.D. Deshpande, J.C. Caldwell, and D.B. Gupta; and the participants in the two seminars. Finally, we appreciate the meticulous editing of Tina Clark and Sandra Ward.

ABSTRACT Using 1971 census data and focusing on the city characteristics of size, growth rate, functional specialization, period since city status was attained, and regional location, this paper examines the phenomenon of migration to Indian cities. A schematic model is used to portray the relationship between the dominance of intradistrict, interdistrict, and interstate migration streams on one hand and the characteristics of the migrants and of the cities on the other.

Although movement to cities from rural areas was the dominant migration stream in the past, the recent trend indicates a shift toward urban-to-urban migration. Lifetime migrants have a lower sex ratio than the nonmigrants but a higher proportion of educated persons. Moreover, the proportion of workers in white-collar jobs is significantly higher among migrants than among nonmigrants.

Cities with dominant intradistrict migration streams have proportionally fewer lifetime migrants in their populations than other cities. They also have low sex ratios among migrants (below 100) and fewer migrants who are well educated. These cities are mostly of local importance in the national economy. In contrast, cities with high proportions of interdistrict or interstate migrants, especially the latter ones, have higher sex ratios among their migrants, higher proportions of better educated persons, and larger proportions of them engaged in white-collar occupations than the nonmigrants. These cities are mostly of regional and national importance economically.

When used as explanatory variables, the city characteristics together explain about two-fifths of the variations in the proportions of lifetime migrants or the current inmigration rates. Regression analysis using the strength of different migration streams and certain characteristics of the migrants, however, improves the amount of explained variance to about three-fifths, and even more in some cases.

A final section of the paper examines urban development policies of the Government of India and the state governments in light of the findings of the present study and suggests policies for the future.

The literature on urbanization and migration has focused attention largely on the analysis of rural-to-urban migration. Economists have suggested various models to explain the volume and direction of labor mobility (Lewis, 1954; Ranis and Fei, 1961; Todaro, 1968, 1969, 1971, 1975, 1976; Harris and Todaro, 1970; Greenwood, 1971; Johnson, 1971; Fields, 1972). They have generally assumed that developing countries have experienced mostly rural-to-urban and possibly some urban-to-urban migration. Microlevel studies have also been conducted to increase understanding of the behavioral patterns of the migrants and the dominant factors responsible for the decision to migrate. Most of these studies have concentrated on the primate cities of the developing countries and cities in the more developed world. (For an interdisciplinary review of macro and micro approaches to migration decision making, see De Jong and Gardner, 1981.)

It is not only the primate city of a country, however, that attracts migrants from rural and other urban areas. Other cities, which may be termed intermediate cities, also attract large numbers of migrants. Together with the primate and other metropolitan cities, they form a system in which most of the country's economic, cultural, political, and administrative activities take place. A useful way to study urbanization and migration, particularly migration, is to consider the set of cities as a system that is different from rural or noncity urban areas in its functions. This approach to the study of urbanization and migration is important for several reasons.

First, studies utilizing economic models have basically focused on labor mobility in explaining rural-to-urban migration. They have generally neglected urban-to-urban migration, which in India has become quite important in recent years and is likely to play a major role in population redistribution during the 1980s and 1990s. As the characteristics of urban-to-urban migrants are likely to be different from those of rural-to-urban migrants, in studies of cityward migration both rural-to-urban and urban-to-urban migration should be taken into account and analyzed separately.

Second, although studies of individual cities based on mover-stayer or place-utility and other models have helped to explain migration behavior by analyzing the role of migration in the growth of those cities and differences between the migrants and nonmigrants, their results may not be amenable to generalization. For example, findings of the Zachariah (1968) study of Bombay may not be replicated in Calcutta, Delhi, or Madras and therefore generalized for all the metropolises of India. In contrast, migration studies based on all cities of a certain minimum population and on noncity urban areas are likely to lead to more meaningful generalizations.

Third, when all cities of a country that have a certain minimum population (say 100,000) are considered together, they can be grouped according to size, past growth pattern, functional specialization, regional location, and other variables. Migration studies that use such groupings as classificatory variables might prove quite interesting and useful.

Fourth, although a large amount of migration to urban areas involves men who move for economic reasons, substantial numbers of women, children, and the elderly also move; and sometimes they constitute a larger migration stream than males of working age. Substantial differences are likely to exist between different categories of cities in the sex and age composition of their migrants. Moreover, from a demographic viewpoint it is important to consider migration to cities, or urbanward migration, in its totality.

Fifth, many of the less developed countries (LDCs) have been making serious efforts to reduce their population growth rates to replacement levels (net reproduction rate = 1) in the near future, possibly by the end of this century. On the assumption that this goal can be achieved, the two major factors in future urban growth will be the emergence of new towns and cities, and migration to existing cities and towns. To project future trends more realistically, it is necessary to have a clearer understanding of recent patterns of migration to existing urban areas.

The final rationale for the proposed approach to the study of urbanization and migration is that in most developing countries a substantial part of the urban growth that has occurred between two successive censuses is due to migration. Furthermore, migration to the primate city and to other metropolitan and intermediate cities accounts for about two-thirds or more of the total urbanward migration in many countries. Hence, it will be fruitful to study migration to all cities according to their characteristics because it will help to clarify the pattern of migration and the characteristics of the migrants.

With these reasons in view, this paper attempts to break new ground in the study of internal migration, using India as an example. Drawing on migration data from published tables of the 1971 census, it describes the pattern of cityward migration to India's 147 urban agglomerations[1] and to cities with populations of 100,000 and over. It also compares the characteristics of migrants and nonmigrants. The final section examines the population distribution policies of the Government of India and suggests policies for the near future in the light of the analysis.

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[1] An urban agglomeration in India comprises a main city and other cities, towns, and developments such as a railway colony or university campus in close proximity that form a continuous spread with the main city and whose day-to-day economy is closely linked with the main city. According to the 1971 census, the Calcutta urban agglomeration, or metropolitan area, had 74 constituent units spread over five districts.

PREVIOUS STUDIES

The Research Programmes Committee of the Indian Planning Commission sponsored city surveys during the 1950s and early 1960s that described the growth of the selected cities during the first half of this century, the pattern of inmigration to them, and the characteristics of the inmigrants vis-à-vis those of nonmigrants (for example, Sovani et al., 1956; Malkani, 1957; Iyengar, 1957; Mishra, 1959; Sen, 1960; Dhekney, 1960; D'Souza, 1968). Comparing nine of those surveys covering the cities of Baroda, Gorakhpur, Hubli, Hyderabad-Secunderabad, Jamshedpur, Kanpur, Lucknow, Poona, and Surat, Bulsara (1964) concluded that industrial cities attracted a larger proportion of inmigrants than did nonindustrial cities. Although rural migrants moved largely within the same district or to a nearby metropolitan city, urban migrants traveled farther in search of employment and most of them were literate, some with primary and some with middle and high school education. Those from rural areas constituted a majority of migrants in some cities (ranging from 52.8 percent in Hyderabad-Secunderabad to 82.3 percent in Jamshedpur, for instance) but in Baroda they represented only 40.8 percent. The number of migrants from urban areas grew steadily and indicated increased interurban mobility. Other important studies about migrants to cities have been conducted by Rao and Desai (1965) on Delhi, Mitra (1963, 1970) on Calcutta and Delhi, Chauhan (1966) on Agra, and Lakdawala (1963), Zachariah (1968), and Gore (1970) on Bombay.

Zachariah's study of the migrants to Greater Bombay indicates selectivity in age, sex, marital status, and family status. Adolescents and young adults constituted a larger proportion of migrants than of nonmigrants in Bombay or of the population of the migrants' places of origin. In each sex-age group, the proportion single was smaller among the migrants than among nonmigrants in Bombay but greater than among the populations of the states of origin. The high sex ratio (number of males per 100 females) among migrants was due not only to high rates of inmigration of single males but also to the migration of married men unaccompanied by wives and children. The educational attainment of the migrants to Bombay was much higher than that of the populations of the states of origin but lower than that of nonmigrants in Bombay. Work participation rates of the migrants were higher than those of the nonmigrants in each age group. The overrepresentation of the migrants in blue-collar and unskilled manual occupations, and of nonmigrants in white-collar occupations, was due mainly to the difference in educational attainment (Zachariah, 1968: 340–42).

From 1961 census data on migrants to large cities (those with 100,000 or more inhabitants) according to their origin, length of stay at their destination, certain characteristics of the migrants, and the functional specialization of the cities, Mitra (1967b) concluded that the proportion of migrants who had lived more than three years in the place of destination was much greater in manufacturing cities than in others. The sex ratio, although above 100, became somewhat more favorable to females who had resided in the cities longer, and this change indicated the growing stability of the migrants. In administrative and service cities, city-to-city migration was much stronger than in cities having other functional specializations. In contrast to Zachariah's finding, Mitra found the ratios of the literates and educated to be consistently higher among inmigrants than among the total populations of those cities.

Mitra et al. (1980) analyzed the pattern of inmigration to 101 Indian cities during 1961–71 in relation to the industrial structure of their male work forces and the concentration of capital investment in those cities during 1971. The results of the analysis indicate that in 66 of the cities a majority of the migrants came from rural areas. Interstate migration of adult males exceeded intrastate migration in the biggest class I cities[2]—that is, rural migrants to those cities tended to come from far-off rural areas—whereas intradistrict migration was prominent in smaller class I cities. About 40 to 50 percent of the migrants were illiterate or semi-literate (having up to five years of schooling). With few skills and little education or training, most of them were engaged in low-grade production activities, indigenous means of transport (e.g., rickshaws, handcarts, horse-drawn carriages), or low-grade services; some worked in petty retail trade and personal services. Few had found employment in administrative, technical, professional, or kindred services (Mitra et al., 1980:67). The researchers found a positive relationship between the number of migrants from urban areas and the magnitude of capital investment in the organized sector.

---

[2] The Indian census classifies urban settlements into six size categories: I, 100,000 and over; II, 50,000–99,999; III, 20,000–49,999; IV, 10,000–19,999; V, 5,000–9,999; and VI, fewer than 5,000.

Using 1961 census data and principal-component analysis, Mahmood (1975) analyzed the characteristics of inmigrants to class I cities and found that long-distance industrial pull, youthfulness of the migrants, rural push with weak industrial pull, short-distance industrial pull, old-age migration, and service pull (in that order of importance) explained 81.2 percent of the variance in migration to the various cities.

In a recent study on urban outmigration Premi (1980:102) observed that migrants from selected small towns to class I cities comprised 47 percent of total outmigrants when transfer cases (considered to have moved involuntarily) were ignored.

Reviewing the research findings on social change and internal migration from Africa, Asia, and Latin America, Simmons et al. (1977) summarized the characteristics of migrants in Asian countries. They found that, because of greater employment opportunities available for the 15–24 age group, migrants to urban areas are most likely to be young adults eligible for work or eager for marriage. Such migrants are frequently underemployed in the rural homestead but believe that they are likely to find jobs in urban areas. As migration reflects a response to employment opportunities, the less developed a country is, the more males dominate its migration streams (Simmons et al., 1977:54).

As for skills, Simmons et al. concluded that people who migrate are not the "dregs of society" or the vast pool of illiterate labor, which classical models might predict, but more educated than those they leave behind. The reasons for this high degree of educational mobility include the greater employment opportunities for the educated and the greater amount of information available to them (Simmons et al., 1977:55–58). Prachuabmoh estimated that in Thailand 10 percent of migrants had seven or more years of schooling as compared with 2 percent of nonmigrants; Malaysia showed the same result (Simmons et al., 1977:55).

Greenwood's analysis of rural-to-urban migration in India showed that economic factors, such as transportation costs, income, and job opportunities, dominated individual decisions to migrate to a city.

Migrants to cities from both rural and urban areas tended to come from places nearby, but this tendency seemed to be significantly more pronounced for rural-to-urban than for urban-to-urban migration. Rural and urban persons alike were found to migrate to rapidly growing cities, perhaps because of the rapidly growing job markets there (Greenwood, 1971:261).

A growing body of evidence in the Asian and Pacific region indicates that migrants tend to come from better-educated segments of their original populations. The continuing high attraction of primate cities seems to be due to their offering the greatest array of occupations for persons at all skill levels, and particularly for those without "urban" skills (United Nations, ESCAP, 1977:5). The concentration of educational institutions, particularly those of higher learning, in big cities means that persons desiring more education must locate themselves where the facilities exist; consequently "more education" becomes a reason for migration. Moreover, the ESCAP study projected, in the process of economic development the volume and rate of female migration will increase and sometimes outnumber male migration, especially in centers where the demand for services requiring clerical and domestic workers is high (United Nations, ESCAP, 1977:5).

In summary, we observe that a majority of migrants to the Indian cities came from rural areas. A large proportion of them were from nearby rural places and went to comparatively small cities. Migrants from urban areas in general traveled longer distances, some of them contributing to migration between the cities, and these migrants more often went to administrative and service cities. There was selectivity of migrants with respect to sex, age, marital status, and family status; but with economic development and increased demand in clerical and domestic-service occupations, the probability of greater migration of females also occurred. All the studies we reviewed indicated that migrants were better educated than those whom they left behind, but there was little evidence of their being better educated than people in the places of destination. One study even indicated lower educational attainment of the migrants than of people at the destination. Desire for more education was found to be a reason for migration. Some studies concluded that migrants were overrepresented in blue-collar occupations or the urban informal sector and only a few had managed to find white-collar jobs.

In the present study, which is based on secondary data from the

1971 census, we attempt to analyze the volume and pattern of inmigration to cities with populations of 100,000 and more. Differentials in demographic, social, and economic characteristics of the migrants are examined according to characteristics of the cities to which they migrate. The paper also considers the extent to which findings of earlier studies are corroborated by data for all the cities of India and how far they need to be modified in the light of the new evidence.

MIGRATION TYPE AND MIGRANT CHARACTERISTICS: A MODEL

Because earlier studies on migration have generally focused on interstate and interdistrict migration, they have missed an important component of migration, which takes place within the district of enumeration–i.e., intradistrict migration.[3] To provide better understanding of the migration process, this study analyzes movement to cities from all three migration streams–intradistrict, interdistrict, and interstate. The relationship between the dominance of a particular migrant stream and the characteristics of its migrants can be described by the following model (also depicted in Figure 1):

> Cities experiencing high rates of intradistrict migration are likely to have substantial numbers of poor, less educated people who are unable to go long distances for employment and a large amount of female migration due to marriage. Such cities are therefore likely to have lower sex ratios among their migrants, lower literacy rates and educational attainment, and higher rates of participation in economic activity among females than other cities. They are also likely to be of local importance in the regional economy.
>
> If interdistrict migrants are mainly from rural areas and their characteristics are similar to those of intradistrict migrants, their destinations are also likely to be similar. If, however, interdistrict migrants have higher sex ratios, higher literacy rates, and higher

---

[3] For administrative purposes, India is divided into 22 states and nine union territories. The states and some of the union territories are subdivided into slightly more than 400 districts, about 1,800 *tahsils* or *talukas*, and more than 5,000 community development blocks. The districts are the basic administrative and planning units, and large amounts of census and other administrative data are published about them regularly. The population of a district is generally around 1.5 million persons.

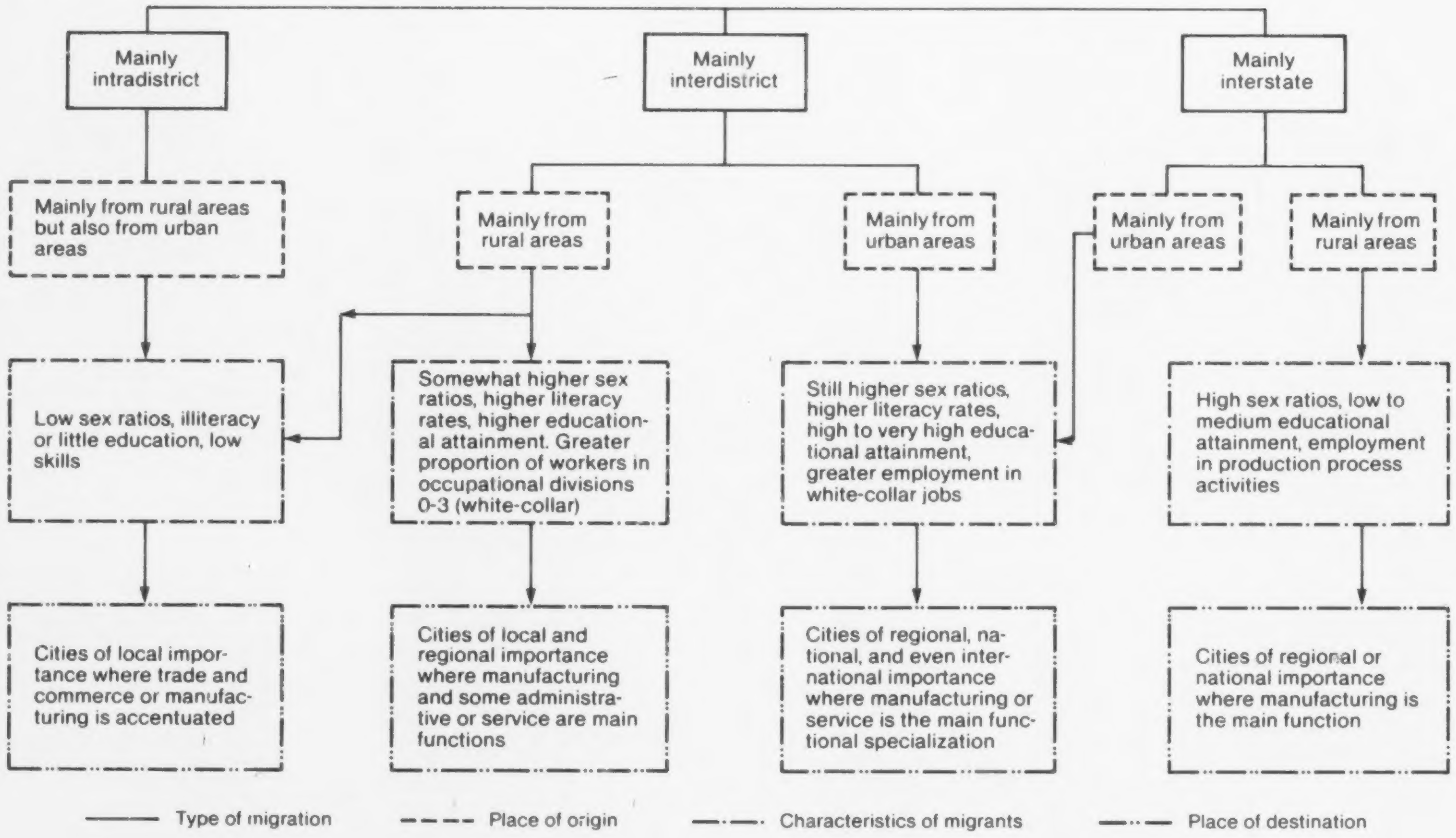
Mainly intradistrict
Mainly interdistrict
Mainly interstate
Mainly from rural areas but also from urban areas
Mainly from rural areas
Mainly from urban areas
Mainly from urban areas
Mainly from rural areas
Low sex ratios, illiteracy or little education, low skills
Somewhat higher sex ratios, higher literacy rates, higher educational attainment. Greater proportion of workers in occupational divisions 0-3 (white-collar)
Still higher sex ratios, higher literacy rates, high to very high educational attainment, greater employment in white-collar jobs
High sex ratios, low to medium educational attainment, employment in production process activities
Cities of local importance where trade and commerce or manufacturing is accentuated
Cities of local and regional importance where manufacturing and some administrative or service are main functions
Cities of regional, national, and even international importance where manufacturing or service is the main functional specialization
Cities of regional or national importance where manufacturing is the main function
Type of migration
Place of origin
Characteristics of migrants
Place of destination

FIGURE 1. Model of migration flow according to the origin and characteristics of migrants

educational attainment than intradistrict migrants, proportionally more of them are likely to have white-collar jobs and go to cities of local and regional importance—cities in which manufacturing and some administrative and service functions predominate.

Interdistrict migrants from urban areas are likely to have higher sex ratios and higher literacy rates than other interdistrict migrants, high to very high educational attainment, and employment in white-collar jobs in greater proportion. These migrants are likely to go to cities in which manufacturing or service is the main functional specialization and which are of regional, national, or even international importance.

Interstate migrants from urban areas are likely to possess characteristics similar to those of interdistrict migrants from urban areas and are likely to follow the same path.

Interstate migrants from largely rural areas will have the highest sex ratios but low to medium educational attainment. They are likely to be engaged in production process activities at their destinations. They will therefore tend to go to manufacturing cities of regional and national importance.

The earlier studies indicate that migrants to cities tend to have less education than the populations at the destinations and most of them find work in blue-collar or other low-paid urban occupations. These studies have counted migrants along with nonmigrants at destinations or compared recent migrant workers with total workers. But migrants, being young, are largely in their first or second jobs, whereas other workers belong to all ages and might have changed their jobs several times, thus being upwardly more mobile. Hence, such comparisons are not particularly valid. Cities send their highly qualified and trained workers to other cities, to noncity urban areas, and sometimes to rural areas. Hence, we are of the view that migrants generally possess higher levels of education and skill than nonmigrants and that they are likely to be engaged in white-collar jobs in greater proportions than the nonmigrants.

THE DATA BASE AND ITS LIMITATIONS

Census migration tables

The 1971 census included three questions about migrants. The first, on birthplace, asked specifically about the name of the place of birth, whether it was rural or urban,[4] the district of birth, and the state or country of birth. The second question, on last residence, also had four parts—on place of last residence, rural or urban designation,[5] district, and state or country. The third question was about duration of residence at the village or town of enumeration (Census of India 1971, 1975:12).

These questions along with other items of information obtained from the "individual slip"[6] made it possible for the Office of the Registrar General and Census Commissioner (ORGCC) to generate several tables on migration. All the migration tables were generated from data on place of last residence except the first table, which was based on place-of-birth data.

A person was counted as a migrant if he or she had had another place of normal residence irrespective of birthplace before coming to the place of enumeration. If a person born at the place of enumeration had moved subsequently to another village or town for work, study, or another purpose and had returned to the place of enumeration, that person was deemed to have had another place of residence prior to being enumerated at the present place. If a person had merely gone to another place or had been going from place to place on a tour or pilgrimage or for temporary business purposes, he or she was deemed not to have had another residence different from the place of normal residence. If, however, a person's normal residence was elsewhere at any time before the person was enumerated at his or her present place of residence, irrespective of where the person had been born, that person was regarded as a migrant (Census of India 1971, 1975:19).

To count each and every person in the country once and only once, the census defined the normal residence of a person in relation to the period of enumeration. A person was considered as normally residing at the place of enumeration if he or she normally stayed there and had actually resided there during any part of the enumeration period (i.e., from March 10 through March 31, 1971). A person who had been away throughout the enumeration period was not considered eligible for enumeration at that place but was enumerated wherever he or she was actually found during the enumeration period (Census of India 1971, 1975:16). Thus any persons who were away from their normal place of residence for whatever reasons during the period of enumeration and were not likely to return to that place between March 10 and March 31, 1971, were considered migrants at the place of enumeration.

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[4] For persons born outside the village or town of enumeration, the rural or urban status of the birthplace at the *time of birth* of the migrant was recorded (Census of India 1971, 1975:18).

[5] Rural or urban status of the place of last residence at the *time of migration* from the place was recorded (Census of India 1971, 1975:19).

[6] The census form used to collect information about each person is known as "individual slip." For the individual slip used in the 1971 census and the instructions to enumerators for completing it, see Census of India 1971 (1975: 12, 16–24).

Children born at their mothers' natal home become migrants when they return to their parents' home because their birthplace, which is also their last place of residence, is different from the place where they are enumerated. The effect of this movement is small, however, because it occurs among very young children. As the children grow older, their different birthplace seems to be forgotten and the birth is reported as having occurred at the place of enumeration.

The present study uses information obtained from three tables on migration from the 1971 census (the format of these tables is given in Appendix 1):

1. *Migrants to cities classified by sex, broad age group, educational level, and, in the case of workers, occupational division.* This table, based on place of last residence of the migrants, was prepared only for urban agglomerations and class I cities. It provides information on the occupations (categorized by division) pursued by migrants to the cities. Educational levels of the migrants indicate their levels of skill.

2. *Workers and nonworkers according to main activity, classified by place of last residence.* This table classifies migrants to class I cities in different migration streams by place of last residence–rural or urban, intradistrict, interdistrict but within the state of enumeration, interstate, and from countries outside India. Workers in each migration stream are further classified into nine industrial categories.

3. *Migrants classified by place of last residence, sex, age group, marital status, and duration of residence.*

This study also uses 1971 census tabulations on characteristics of the population of each city–its sex and age composition and that of the workers, number of literates and educated persons by sex, and industrial classification of workers–to compare the characteristics of migrants with those of the total population of each city or of its nonmigrants.

Although the census tables provide the occupational distribution of

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migrants, no such information was available for the total population of each city. To compare educational attainment and occupational placement of the migrant and nonmigrant workers, it was necessary to obtain information on educational attainment of all workers and their occupational distribution for at least some of the cities. That information was available in published form for each district by rural and urban residence. We therefore selected those districts where the population of the main city constituted at least 85 percent[7] of the total urban population of the district in which the city was located. We then assumed that the educational and occupational distribution of workers in the urban populations of the selected districts represented the educational and occupational distribution of the workers of the cities located in them. We could find 24 such cities in the country. There were certain inconsistencies, however, in the published data for four districts and cities, which had to be left out. Thus we used information on 20 cities–eight of them with populations of one million plus, six with populations between one-half million and one million, and the remaining six with 100,000–499,999 inhabitants (see Appendix 2)–to compare the educational attainment and occupational placement of migrants and nonmigrants.

Our analysis and the census data on which it is based have several other limitations besides those already mentioned.

The most important limitation of the analysis is that it deals only with inmigration to the cities and not with net migration. It would have been very useful to have information about outmigration also, but it is not possible to capture such information in a census since, theoretically, outmigrants from a particular city can go to any rural or urban settlement inside and even outside the country.

Another problem we faced is that some of the urban agglomerations comprise a number of cities and towns. For example, in 1971 the Calcutta agglomeration included 74 settlements spread over five districts of the state. Of those settlements ten besides Calcutta had populations of 100,000 and more. In treating an urban agglomeration as one unit, one loses separate information for such cities.

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[7] This cutoff point at 85 percent was purely arbitrary, but it provided a sufficient number of cities for which data on migrants could be compared with data on the district urban population. A smaller percentage would have allowed us to include several more cities in the analysis, but by definition that would have meant inclusion of a larger component of populations of other urban areas of the districts in the category of nonmigrants even though a fair proportion of those populations were of migrants.

Furthermore, at the time we processed our data, migration tables were not available for Shillong, a city with 122,752 inhabitants in 1971. This city has therefore been excluded from our analysis.

As is well known, Indian census data suffer substantially from inaccuracies in age reporting. These inaccuracies become more evident when data are used for smaller aggregations. But we believe these errors are similar for migrants and nonmigrants and hence would not affect the comparison. This limitation applies to other sets of comparative tables where such errors exist.

Finally, migration tables for each city were generated from a 20 percent sample selected systematically from the individual slips. Because of large sampling errors in the cell values of detailed cross-tabulations, many of those tabulations are not reliable. Accordingly, we have combined some of the categories and avoided analyses of migrant and nonmigrant characteristics based on detailed cross-tabulations.

Derived variables

From the data on migrants to each city and its total population, many variables were derived which can be classified into the following broad categories:

1. *Proportion of lifetime and current migrants in the city's population by sex.* Lifetime migrants are those who came to the city at some time during their lives and have been living there since then. They might have arrived in the city only a week earlier or been living there for decades. Lifetime migrants have also been called all-duration migrants because the duration of their stay at the place of enumeration is not specific. In contrast, current migrants are those who moved to the place of enumeration during the 365 days prior to the date of enumeration. The percentage of current migrants among lifetime migrants is taken as one variable, and the percentage of current migrants in the total population of the city is indicative of the current migration rate.

2. *Distribution of migrants to each city by migration stream according to the place of last residence.* The last residence is classified by its rural or urban character as well as by its administrative unit. If the place is within the same district in which the particular city is

situated, the migration is defined as intradistrict and is generally regarded as short-distance migration. If the last residence is located in another district but in the same state in which the particular city is located, the movement is defined as interdistrict migration and is considered to be medium-distance movement. Migration across state or union territory boundaries is defined as interstate migration and is assumed to be long-distance movement.

3. *Sex ratios of the total population, migrants, and nonmigrants.*
4. *Age composition of the total population, nonmigrants, and the migrants of each sex,* migrants being further classified by migration stream and duration (lifetime or current).
5. *Age and marital-status distribution of lifetime and current migrants by migration stream.*
6. *Proportion illiterate among migrants and nonmigrants; educational attainment of migrants in different migration streams, of total migrant and nonmigrant workers in 20 selected cities.* This distribution is also obtained for total migrants and migrant workers in age groups 15–29 and 30–59.
7. *Work participation rates of nonmigrants and migrants by sex and age—all ages, 15–29, and 30–59.*
8. *Ratio of migrant to nonmigrant workers.*
9. *Industrial classification of the total population, nonmigrants, and migrants, migrants being further classified by migration stream.*
10. *Occupational classification of migrant workers other than those working as cultivators or agricultural laborers, and also of nonmigrant workers* (in 20 cities).
11. *Distribution of migrant workers by place of origin and industrial category.*

CLASSIFICATION OF CITIES ACCORDING TO SELECTED CHARACTERISTICS

We have classified 148 cities of India into different groups according to their size, growth rate, functional specialization, age as a class I city, and regional location. Appendix 3 lists the cities by city size and shows their classification according to the other variables.

It is generally agreed that in India the metropolises are the major magnets for migrants, particularly long-distance migrants, and that those cities have been growing much faster than other cities. To determine differences in migration pattern and in the characteristics of migrants by city size, Indian cities have been classified into four categories on the basis of their 1971 populations: (1) 1,000,000+ (nine cities); (2) 500,000 to 999,999 (ten cities); (3) 200,000 to 499,999 (54 cities); and (4) 100,000 to 199,999 (74 cities). Map 1 shows the location of the cities and identifies them by size category.

An analysis of the growth rates of Indian cities during 1951–71, the two decades of development planning, indicates that some cities grew very fast while others did not experience growth commensurate even with their natural increase.[8] The latter group had net outmigration from their populations. The cities' growth rates are the net result of changes in population over time through natural increase, changes in municipal area, and the difference between in- and outmigration. The growth rates have been classified into three categories: (1) high growth rate, defined as a rate higher than that of the nation's urban population during 1951–71 (68 cities); (2) medium growth rate, defined as one between that of the urban population and that of the total population during 1951–71 (51 cities); and (3) low growth rate, defined as one below the national growth rate during 1951–71 (26 cities).

Although the cities generally perform diversified functions, it is still possible to determine their functional specialization. As indicated by several writers, the pattern of migration to the cities and the characteristics of the migrants are likely to differ according to the main functions of the cities. Several methods have been developed to determine functional specialization of the settlements (Harris, 1943; Pownall, 1953; Duncan and Reiss, 1956; Lal, 1957; Ahmad, 1965; Mitra, 1967a). Different methods yield similar results when the classification is sufficiently broad. As the purpose of the present study is to understand migration differentials related to the functional specialization of the cities at a broad level, we have borrowed Mitra's functional classification of the cities, created on the basis of 1971 census data,[9]

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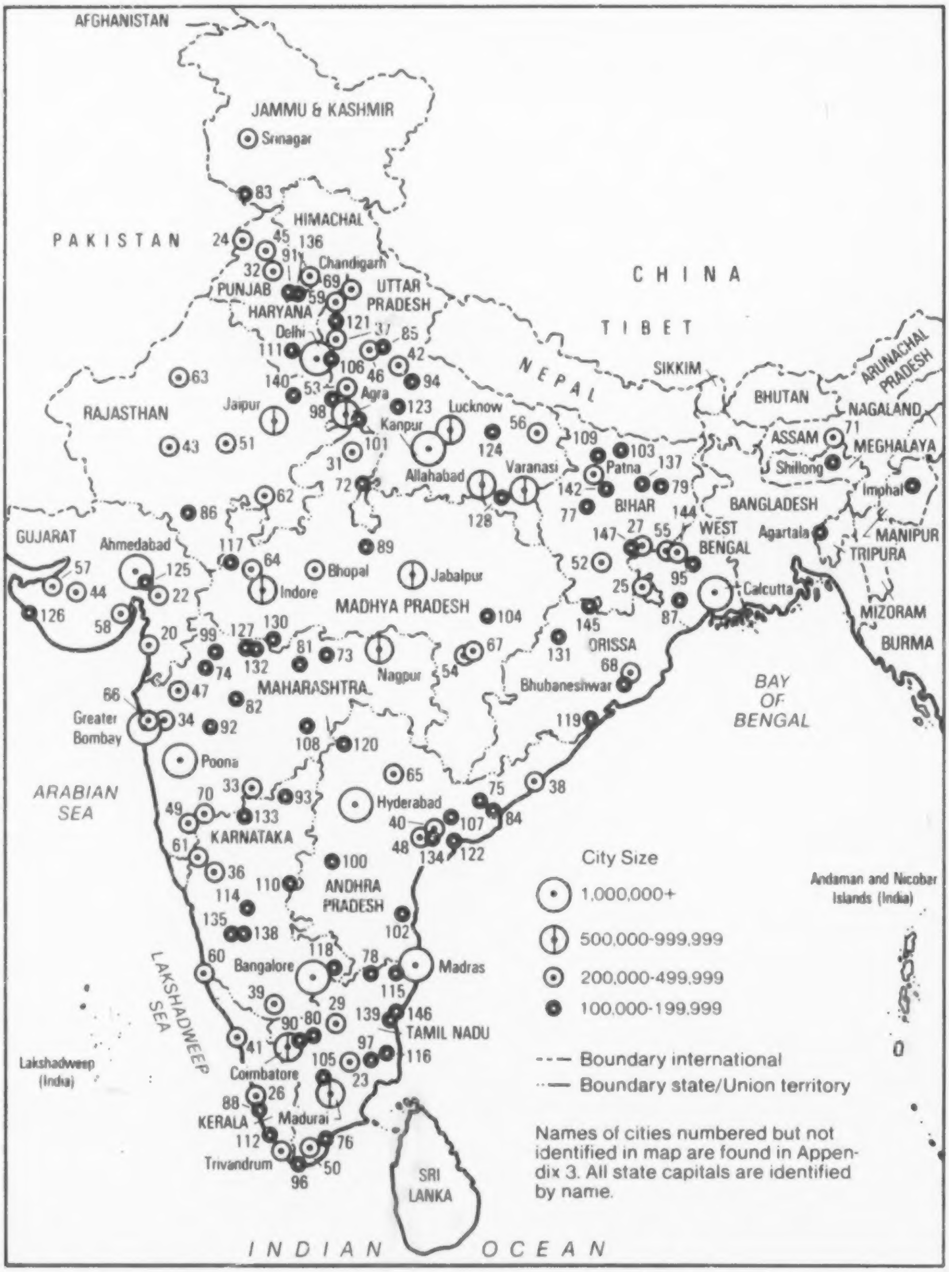
8. In the absence of reliable statistics on birth and death rates of each city, we have assumed that the national exponential growth rate represented the natural growth rate of each city. All those cities whose census growth rate for 1951–71 was lower than the national growth rate for the same period were, therefore, assumed to have growth rate not commensurate to the natural increase rate.

9. Mitra's functional classification of the 1971 cities, applying his methodology that earlier (1967a) he had developed for the classification of the 1961 cities, has not been published. We are grateful to Professor Mitra for making his unpublished data available to us.


AFGHANISTAN
JAMMU & KASHMIR
Srinagar
PAKISTAN
HIMACHAL
Chandigarh
PUNJAB
HARYANA
UTTAR PRADESH
Delhi
Agra
Jaipur
Kanpur
Lucknow
Allahabad
Varanasi
RAJASTHAN
CHINA
TIBET
NEPAL
SIKKIM
BHUTAN
ARUNACHAL PRADESH
NAGALAND
ASSAM
MEGHALAYA
Shillong
Imphal
MANIPUR
TRIPURA
Agartala
MIZORAM
BURMA
BANGLADESH
Patna
BIHAR
WEST BENGAL
Calcutta
ORISSA
Bhubaneshwar
BAY OF BENGAL
GUJARAT
Ahmedabad
Bhopal
Indore
Jabalpur
MADHYA PRADESH
Nagpur
MAHARASHTRA
Greater Bombay
Poona
ARABIAN SEA
Hyderabad
KARNATAKA
ANDHRA PRADESH
Bangalore
Madras
TAMIL NADU
Coimbatore
Madurai
KERALA
Trivandrum
LAKSHADWEEP SEA
Lakshadweep (India)
Andaman and Nicobar Islands (India)
SRI LANKA
INDIAN OCEAN
City Size
1,000,000+
500,000-999,999
200,000-499,999
100,000-199,999
Boundary international
Boundary state/Union territory

Names of cities numbered but not identified in map are found in Appendix 3. All state capitals are identified by name.

SOURCE: Derived from Survey of India map prepared in Map Division Office of the Registrar General, India.

MAP 1. Locations of cities with populations of 100,000 or more: India, 1971 and grouped the cities into three main functional categories: (1) manufacturing (68 cities); (2) trade, commerce, and transport (58 cities); and (3) service-administration and others (21 cities).

Some Indian cities have existed for a long time as important centers of economic, commercial, or administrative activities, whereas others graduated to the class I category much later. Some came into existence only after Independence and have grown very fast, mostly through net migration, to fulfill the functions for which they were established. Cities that have been in existence for a long time are now growing largely through natural increase, but the new cities are growing mainly through net inmigration. We have therefore classified the cities into the following categories according to the length of their existence: (1) those having a population of 100,000+ prior to 1901 (25 cities), (2) cities in existence prior to 1901 but graduated to class I between 1901 and 1941 (24 cities), (3) cities in existence prior to 1901 but graduated to class I status after the 1941 census (87 cities), and (4) new cities that came into existence after 1901 and attained class I status anytime between that date and 1971 (10 cities).

Finally, India displays regional diversity in its economic and sociocultural characteristics, which has influenced the migration pattern to the cities and been partly influenced by that pattern. So as to understand the effect of a city's location on its growth and inmigration, we have classified the cities into the following regions: (1) northern and northeastern Himalayan mountain ranges, including the Assam plains (six cities); (2) Punjab and upper Ganga plains, including the Rajasthan desert region (24 cities); (3) middle and lower Ganga plains (21 cities); (4) central India plateau north of the Satpura range (27 cities); (5) Deccan plateau (35 cities); and (6) coastal plains of the Eastern and Western Ghats (34 cities).

Data on all five classification variables were not available for six cities–Chandigarh, Durgapur, Rourkela, Pondicherry, Bokaro, and Imphal. For instance, Chandigarh, Durgapur, Rourkela, and Bokaro came into existence only after 1951; hence, their annual growth rates over the 20-year period could not be worked out. We have accordingly classified Chandigarh, Durgapur, and Rourkela on the basis of their 1961–71 growth rates, but it was not possible to classify Bokaro even on that basis. The population of Imphal dropped from 99,716 in 1941 to 2,862 in 1951 because in 1951 the superintendent of census operations for that area treated a large part of the town as rural.[10] We therefore preferred not to compute the growth rate for Imphal.

Although Pondicherry has existed for more than 250 years, it was a French possession until 1954 (Census of India 1961, 1964:1); hence, the table entitled "Towns and urban agglomerations classified by population in 1971 with variation since 1901" from the 1971 census did not give its population prior to the 1961 census (Census of India 1971, 1975:277), and we were unable to classify it on the basis of its length of existence as a class I city. It has therefore been left out of that classification scheme.

A cross-classification of cities by two or more variables shows certain interrelationships. For example, an association is found between city size and growth rate ($\chi^2 = 15.6$ with 6 degrees of freedom, significant at the 2 percent level). This relationship was to be expected as it is the sustained high growth rates that have led to tremendous increases in the size of cities. Similarly, an association exists between cities' regional location and their functional specialization ($\chi^2 = 28.3$ with 10 d.f., significant at the 1 percent level). More manufacturing cities are located in the central India and Deccan plateaus than mere chance would suggest. Similarly, trade, commerce, and transport cities tend to be found in the Deccan plateau or in the coastal plains, whereas administrative and service cities are concentrated in the Himalayan region and the upper Ganga plains. An association also is found between regional types and growth rates, cities in the upper Ganga plains, central plateau, and Deccan plateau experiencing very high growth rates and those in the middle and lower Ganga plains having very low growth rates. The data show an association between regional location, growth rate, and functional specialization; the cities of the central and Deccan plateaus generally experienced high growth rates and specialized in manufacturing.

As expected, there is a high degree of association between age of the cities and their size. All the metropolitan cities and seven out of ten with populations of 500,000 to one million had populations of 100,000 and more even before the beginning of this century. In contrast, most of the cities with populations of 100,000 to 200,000 graduated to class I status only recently, between 1951 and 1971. We found no association, however, between cities' age and their functional specialization.

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[10] This happened because the superintendent decided that Imphal was a collection of villages grouped around the palace of the ruler and that a large percentage of its population was agricultural. Hence, only a small fraction of the area around the palace was treated as urban (Census of India 1951, 1954:148).

Given these interaction effects, it would have been useful to classify the cities into subcategories (see Table 1) for a better understanding of the migration process, but such classification causes the cell values to become very small in many cases and the analysis statistically unreliable. Instead, we have used multiple classification to analyze the simultaneous effect of the five variables on the volume of migration.

The averages for the city categories are unweighted. This helped us in obtaining mean and standard deviations for each variable and in testing levels of significance where that was necessary.

PATTERNS OF MIGRATION TO INDIAN CITIES

Volume of migration

In 1971 lifetime migrants to class I cities constituted about two-fifths of the average city population, but the proportion of female migrants among the cities' female populations was somewhat larger than that of male migrants among their male populations (Figure 2 and Table 2).[11] Medium-sized cities (200,000–499,999 inhabitants) had the largest share of migrants, but it did not differ significantly from that of the metropolises or the smaller cities. The proportion of migrants was significantly lower in cities with 500,000–999,999 inhabitants than in other cities, although half of them had fast growth rates and the other half had medium growth rates during 1951–71. Among the five cities with high growth rates in this size class, four–Coimbatore, Madurai, Jaipur, and Jabalpur–experienced substantial growth of peripheral areas between the 1961 and 1971 censuses.

Cities with high growth rates had a higher proportion of inmigrants in their populations than other cities (Figure 2). Service cities attracted more inmigrants; in contrast, Bulsara (1964:36) said that industrial

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[11] The distribution of migrants in Table 2 and all subsequent tables is by place of last residence and not by place of birth. Thus, people born outside India who changed their Indian residence before the 1971 census were counted as migrants within the country. In contrast, people born in India who had been abroad as emigrants were enumerated as having last resided outside India. Hence, Table 2 may not reflect the exact proportions of immigrants–persons of foreign origin–to the total populations of Indian cities.

TABLE 1. Cross-classification of 145 cities by growth rate, city size, and functional specialization: India, 1971

City size and functional specialization	Growth rate			
	High	Medium	Low	Total
1,000,000+				
Manufacturing	4	1	0	5
Trade and transport	1	2	0	3
Service	1	0	0	1
Total	6	3	0	9
500,000–999,999				
Manufacturing	3	3	0	6
Trade and transport	1	0	0	1
Service	1	2	0	3
Total	5	5	0	10
200,000–499,999				
Manufacturing	15	11	1	27
Trade and transport	11	6	3	20
Service	3	3	1	7
Total	29	20	5	54
100,000–199,999				
Manufacturing	12	5	11	28
Trade and transport	11	15	8	34
Service	5	3	2	10
Total	28	23	21	72
All sizes				
Manufacturing	34	20	12	66
Trade and transport	24	23	11	58
Service	10	8	3	21
Total	68	51	26	145

cities attracted a larger proportion of inmigrants than nonindustrial cities. Further, comparatively new cities had much higher proportions of inmigrants in their populations than other cities. The proportion of inmigrants in the populations of the cities of the middle and lower Ganga plains, however, averaged just 30.2 percent, which was significantly lower than the averages for the other regions (Table 2).

Female inmigrants to the cities formed a larger proportion than males in all categories except in metropolitan cities, new cities, and cities of the Himalayan region (Figure 2). The problem of adequate living space in the metropolises probably acts as a deterrent to family

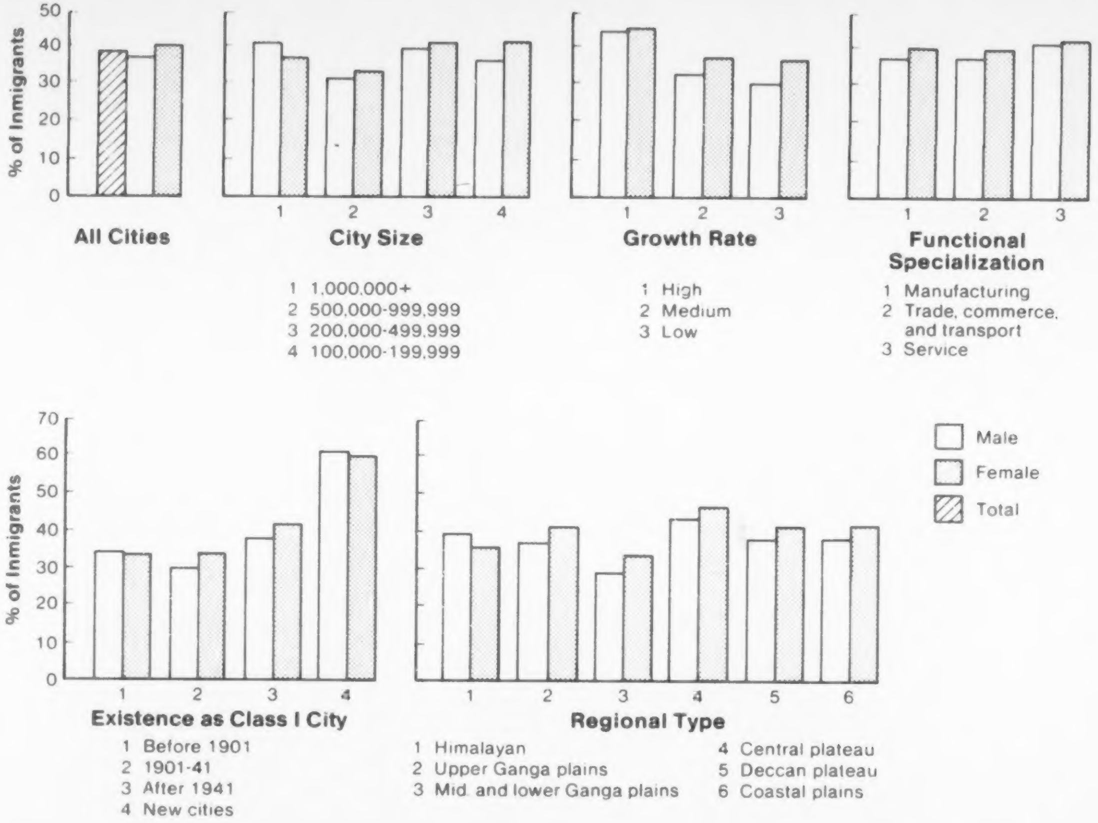

FIGURE 2. Percentages of inmigrants by city characteristics: India, 1971

TABLE 2. Percentages of total, male, and female lifetime migrants in city populations by city characteristic: India, 1971

City characteristics	Cities (N)	% of lifetime inmigrants		
		Both sexes	Males	Females
All cities	147	38.4	36.9	40.0
City size				
1,000,000+	9	39.0	40.6	36.8
500,000–999,999	10	32.1	31.3	33.1
200,000–499,999	54	39.8	39.1	40.6
100,000–199,999	74	38.2	35.7	40.9
Growth rate				
High	68	43.9	43.4	44.4
Medium	51	34.1	32.1	36.4
Low	26	32.6	29.5	36.0
Functional specialization				
Manufacturing	68	38.2	36.4	40.1
Trade and transport	58	37.7	36.2	39.3
Service	21	41.2	40.6	41.8
Length of existence as class I city				
Before 1901	25	33.3	33.4	33.1
1901–41	24	31.5	29.8	33.5
After 1941	87	39.3	37.3	41.6
New cities[a]	10	60.6	61.1	59.9
Regional type				
Himalayan	6	36.9	38.3	35.0
Upper Ganga plains	24	38.0	36.0	40.4
Middle and lower Ganga plains	21	30.3	28.4	32.6
Central plateau	27	44.3	43.0	45.8
Deccan plateau	35	38.9	37.6	40.3
Coastal plains	34	38.8	37.3	40.4

a. New cities are defined as those cities that came into existence after 1901 and attained class I status any time between 1901 and 1971.

migration, keeping the proportion of females low there. In the new cities initial job opportunities were primarily for males, and that made their proportions higher in these cities.

Distribution of migrants in migration streams

An important factor in the study of cityward migration is knowledge about the inmigrants' places of origin. Among the lifetime migrants to

TABLE 3. Percentage distributions of migrants to cities in different migration streams by city characteristic: India, 1971

City characteristics	Cities (N)	Intradistrict		Interdistrict		Interstate		Resided in India		Immi-grants	Total
		Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban		
All cities											
Both sexes	147	26.67	7.47	17.84	20.41	8.93	12.82	53.45	40.70	5.85	99.99
Males	147	25.59	7.00	18.59	19.99	9.85	12.89	54.03	39.88	6.09	100.00
Females	147	27.80	7.96	17.07	20.93	7.84	12.75	52.70	41.63	5.66	100.01
City size											
1,000,000+	9	6.36	5.08	25.41	17.75	17.15	19.96	48.92	42.79	8.22	99.93
500,000–999,999	10	19.65	5.51	21.04	23.67	9.42	15.38	50.11	44.56	5.32	99.99
200,000–499,999	54	23.41	6.74	17.44	21.28	10.01	14.02	50.85	42.04	7.11	100.01
100,000–199,999	74	32.48	8.56	16.78	19.64	7.08	10.73	56.34	38.93	4.72	99.99
Growth rate											
High	68	23.63	6.67	19.04	19.85	10.76	14.48	53.43	41.00	5.56	99.99
Medium	51	30.64	8.27	16.33	20.96	6.39	11.02	53.36	40.25	6.39	100.00
Low	26	26.75	7.98	17.17	2[illegible].88	8.80	11.85	52.72	41.71	5.58	100.01
Functional specialization											
Manufacturing	68	25.96	6.87	19.46	20.34	10.41	12.69	55.83	39.90	4.26	99.99
Trade and transport	58	30.07	9.09	16.87	20.55	6.88	10.79	53.82	40.42	5.76	100.01
Service	21	19.62	4.94	15.29	20.23	9.80	18.86	44.71	44.03	11.26	100.00

Length of existence as class I city											
Before 1901	25	14.71	5.04	23.07	21.81	11.50	16.10	49.28	42.95	7.75	99.98
1901–41	24	25.34	7.89	15.79	22.22	8.49	13.38	49.62	43.49	6.88	99.99
After 1941	87	32.26	8.47	16.50	20.45	6.71	10.39	55.47	39.30	5.22	100.00
New cities[a]	10	12.06	4.53	23.08	13.91	20.64	21.57	55.78	40.01	4.20	99.99
Regional type											
Himalayan	6	19.92	5.14	12.34	16.81	8.57	14.76	40.83	36.71	22.45	99.99
Upper Ganga plains	24	18.53	6.07	13.90	20.46	8.75	18.15	41.18	44.68	14.15	100.01
Middle and lower Ganga plains	21	26.54	6.80	22.44	20.10	7.63	8.82	56.61	35.72	7.67	100.00
Central India plateau	27	18.98	5.09	18.95	20.26	14.49	17.67	52.42	43.02	4.54	99.98
Deccan plateau	35	32.02	9.77	16.22	21.74	8.22	11.18	56.46	42.69	0.85	100.00
Coastal plains	34	34.30	8.80	19.54	19.93	6.26	9.03	60.10	37.76	2.13	99.99

a. New cities are defined as those cities that came into existence after 1901 and attained class I status any time between 1901 and 1971.

the 147 cities, 53.5 percent came from rural areas, 40.7 percent from urban areas, and the remaining 5.8 percent from other countries (Table 3). In relation to the populations of sending areas the proportion of urban migrants to cities was much higher than rural migrants. Migration among the class I cities themselves seems to account for a substantial share of urban-to-urban migration but its volume could not be estimated in the absence of data on city-by-city flows.

The intradistrict migration stream constituted 33.9 percent of the lifetime migrants, while interdistrict and interstate streams accounted for 38.3 percent and 21.9 percent, respectively.

The proportion of intradistrict migration was lowest in the metropolitan cities (Figure 3) because Bombay, Calcutta, and Madras form districts in themselves and thus did not have intradistrict migrants, and because these cities are of national and international economic, administrative, and political importance, attracting migrants from all over India.

Intradistrict migration was more than 50 percent of total migration in 31 cities; of those, 11 cities are situated in Tamil Nadu, seven in Andhra Pradesh, five in Bihar, three in Karnataka, and one each in Kerala, Gujarat, Maharashtra, Manipur, and Orissa. Heavy intradistrict migration to the cities of Andhra Pradesh and Tamil Nadu may be due to the large size of the districts in which the cities are located; the average population in 1971 was 3.12 million and the average number of towns other than those under consideration was 27.[12] Many of those cities have been of local importance only, serving their immediate hinterlands through trade, commerce, and transport. The Bihar cities with large proportions of intradistrict migrants–Gaya, Darbhanga, Muzaffarpur, Monghyr, and Bihar–had very low proportions of inmigrants in their populations. Those cities are mainly of local importance in the state's economy.

Interstate migration was high in metropolitan cities, in cities with high growth rates, in comparatively new cities, and in cities located in the central India plateau (Figure 4). A certain amount of interaction occurred among these variables since a number of new cities in the central India plateau had very high growth rates during 1951–71.

The proportion of interstate migrants, particularly from urban

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[12] The average population of other districts with at least one class I city was 2.05 million; an average district had 11 noncity urban settlements.

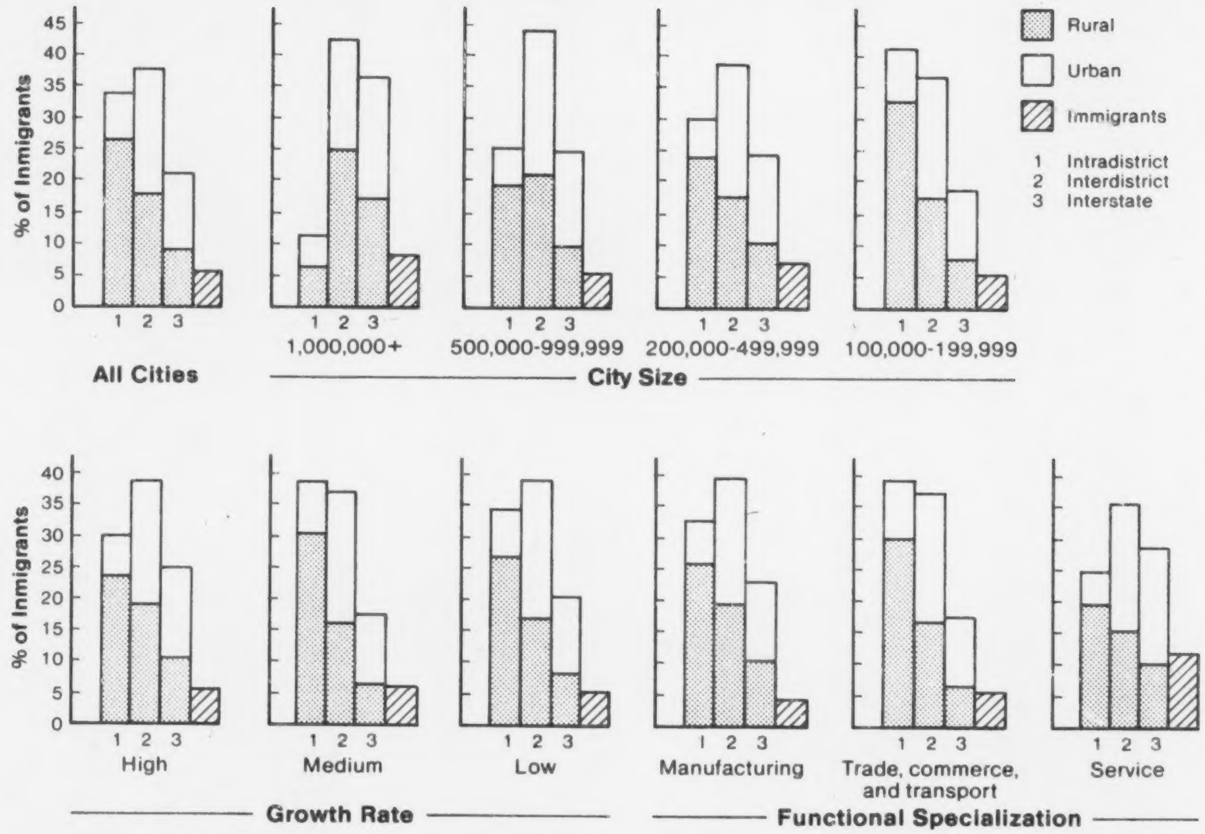

FIGURE 3. Distribution of inmigrants in different migration streams by city size, growth rate, and functional specialization: India, 1971

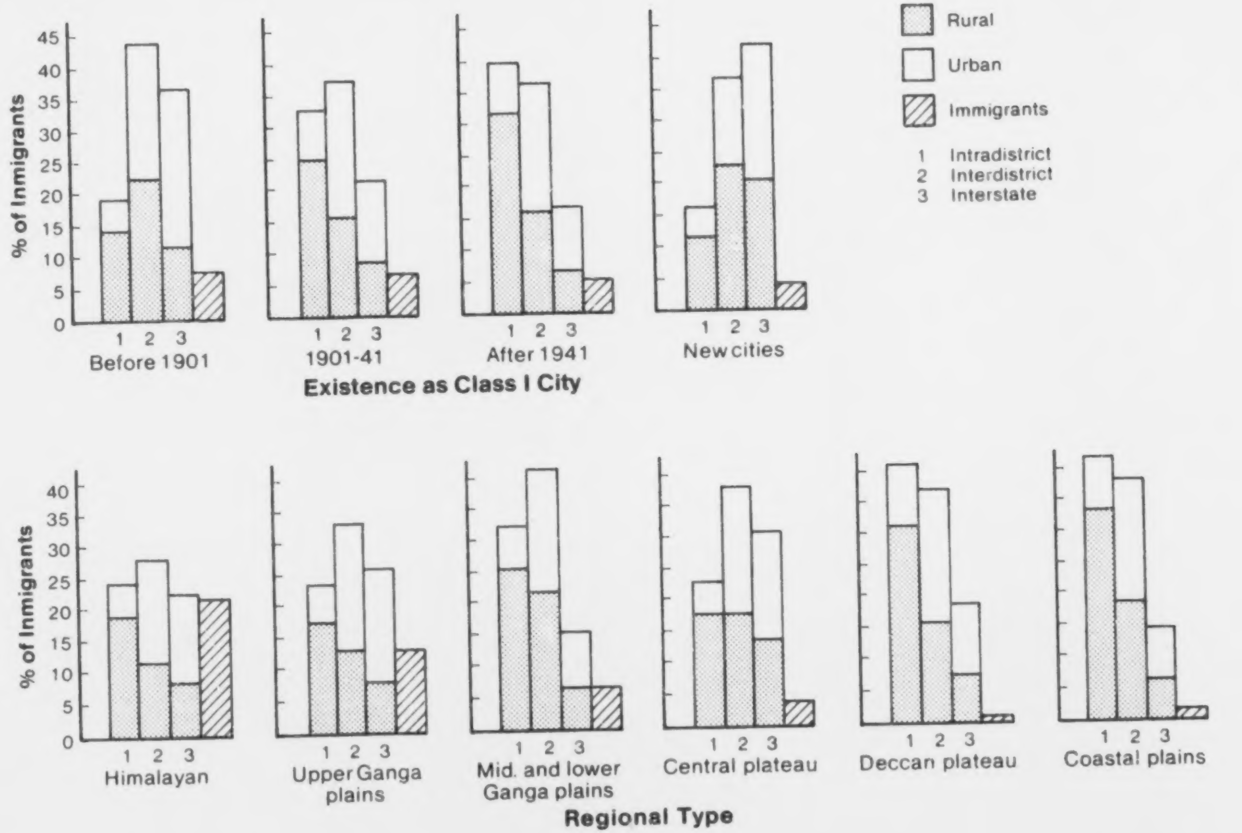

FIGURE 4. Distribution of inmigrants in different migration streams by city's existence as a class I city and regional type: India, 1971

areas, was highest in service cities and lowest in trade, commerce, and transport cities, pointing to the stronger pull of service cities on urban long-distance migrants. In addition, administrative and service city employers generally require people with higher education levels who generally come from urban areas and may be willing to move long distances if a secure job is available, especially if the job leads to a higher social status.

The proportion of immigrants was highest in cities of the Himalayan region, followed by Punjab and the upper Ganga plains. The proportion was 72.2 percent in Agartala, the capital of Tripura, which is an area surrounded on three sides by Bangladesh. A certain amount of illegal immigration probably occurs from Bangladesh through Tripura and Agartala. Immigrants constituted 35 percent of the total migrants in Jullundur, 33.3 percent in Burdwan, 32.4 percent in Amritsar, 32.3 percent in Rohtak, and 32.2 percent in Calcutta. Most of these immigrants came from Pakistan and present Bangladesh in 1947 when the country was partitioned into India and Pakistan.

Inmigration rates

The inmigration rate to a city is defined by the following formula:

$$m_i = \frac{M_i}{P_i} k$$

where m_i = inmigration rate, M_i = total inmigrants to the city within one year before the census enumeration, P_i = population of the city as of the census date, and k = constant, which can be 100 or 1,000 (here $k = 100$).

The inmigration rate of 3.05 percent for males for all 147 cities (Table 4) is higher than that for females (2.49 percent); the difference is statistically significant. In fact, the inmigration rate for males is invariably higher than for females in all city categories, indicating greater male inmigration during 1970–71. This finding is opposite to the one relating to lifetime migration. Thus while on a short-term basis migration is male-dominated, it slightly favors females on a long-term basis.

The inmigration rates for cities in the two smaller size categories are significantly higher than in the two larger size categories; the inmigration rates fall as growth rates decline. However, the growth rates relate to a period of 20 years–from 1951 to 1971–whereas inmigration

TABLE 4. Inmigration rates to cities by city characteristic: India, 1971

City characteristics	Cities (N)	Rate per 100 persons		
		Both sexes	Males	Females
All cities	147	2.79	3.05	2.49
City size				
1,000,000+	9	2.16	2.37	1.92
500,000–999,999	10	2.01	2.36	1.74
200,000–499,999	54	3.01	3.33	2.63
100,000–199,999	74	2.90	3.13	2.62
Growth rate				
High	68	3.23	3.51	2.89
Medium	51	2.52	2.77	2.26
Low	26	2.40	2.65	2.09
Functional specialization				
Manufacturing	68	2.56	2.83	2.26
Trade and transport	58	2.72	2.95	2.47
Service	21	4.05	4.47	3.52
Length of existence as class I city				
Before 1901	25	2.14	2.44	1.85
1901–41	24	2.41	2.68	2.10
After 1941	87	3.02	3.29	2.70
New cities[a]	10	4.11	4.35	3.75
Regional type				
Himalayan	6	3.88	4.39	3.18
Upper Ganga plains	24	3.36	3.68	2.97
Middle and lower Ganga plains	21	1.06	1.21	0.95
Central India plateau	27	3.13	3.41	2.77
Deccan plateau	35	2.73	3.04	2.37
Coastal plains	34	3.27	3.48	3.02

a. New cities are defined as those cities that came into existence after 1901 and attained class I status any time between 1901 and 1971.

rates relate only to 1970–71; hence their influence on long-term growth rates or on any simultaneity effect is likely to be small. The inmigration rates for the trade, commerce, and transport cities are lower than for the service cities but are not necessarily the lowest rates. Further, the inmigration rates are higher in newer cities. The inmigration rates are significantly lower in cities of the middle and lower Ganga plains. These findings are similar to the findings relating to lifetime migrants.

High inmigration rates generally imply high growth rates of the cities' populations, but if the rates are higher than the average annual growth rates between two successive censuses, they imply substantial outmigration from such cities, since

$$r_a = r_n + (m_i - m_o)$$

or $$m_i - r_a = m_o - r_n,$$

where r_a = average annual growth rate between two successive censuses, r_n = natural increase rate, that is, birth rate – death rate, m_i = inmigration rate, and m_o = outmigration rate. In several cities (Meerut, Dehradun, Jammu, Ahmadnagar, Machilipatnam, Ambala Cantonment, and Kolar Gold Fields) $(m_i - r_a)$ was more than 2 percentage points. The reasons are likely to be specific to individual cities and can be analyzed by considering local conditions in each case. In 12 other cities $(m_i - r_a)$ was between 1 and 2 percentage points, pointing to substantial outmigration from such cities.

In contrast, several cities during 1970–71 had low inmigration rates, (m_i) even less than 1 percent; these cities were Calcutta, Varanasi, Srinagar, Asansol, Bhagalpur, Rampur, Kharagpur, Shahjahanpur, and Burdwan. In several other cities $m_i - r_a$ was negative and more than 2 percentage points.

Several factors may help explain this phenomenon. For example, in cities like Calcutta, Bombay, and Madras little outmigration occurs and growth is mainly due to natural increase, inmigration, and, in some cases, extension of municipal boundaries. In other cities, the inmigration rate and the census growth rate are both very low. The economic base of these cities seems to be weak and the residents probably travel to other areas to work. Several of these cities (Varanasi, Patna, Bhagalpur, Shahjahanpur, Burdwan, Firozabad, Faizabad, Mirzapur, Monghyr, and Bihar) are located in the middle and lower Ganga plains.

Current migrants constituted 7.3 percent of the total inmigrants to the cities, the proportion being higher among males than females (Table 5). Large city-to-city variations occurred in this proportion, from a low of only 0.84 percent in Shahjahanpur (the middle and lower Ganga plains region) to a high of 19.5 percent in Jammu (the Himalayan region). For instance, the high proportion of current

TABLE 5. Percentages of current migrants among all migrants by place of last residence and city characteristic: India, 1971

City characteristics	Cities (N)	Total mi- grants	Resided in India			Intradistrict			Interdistrict and interstate		
			Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
All cities											
Both sexes	147	7.3	7.6	7.2	8.3	6.7	6.1	8.3	8.6	9.0	8.4
Males	147	8.4	8.8	8.4	9.6	7.8	7.3	9.6	9.7	10.0	9.6
Females	147	6.2	6.4	6.0	7.2	5.6	5.0	7.2	7.4	7.7	7.3
City size											
1,000,000+	9	5.5	5.7	5.4	6.0	6.0	4.9	8.1	6.1	6.2	6.1
500,000–999,999	10	6.3	6.6	6.1	7.1	4.6	4.2	5.5	7.3	7.7	7.2
200,000–499,999	54	7.8	8.2	7.9	8.8	6.9	6.5	8.2	9.2	9.7	9.0
100,000–199,999	74	7.3	7.6	7.1	8.4	6.8	6.1	8.7	8.6	9.0	8.4
Growth rate											
High	68	7.3	7.6	7.1	8.4	7.0	6.4	8.7	8.4	8.5	8.4
Medium	51	7.6	8.0	7.6	8.8	6.3	5.9	7.7	9.5	10.1	9.3
Low	26	6.6	7.0	6.9	7.5	6.4	5.5	8.4	7.4	8.0	7.1
Functional specialization											
Manufacturing	68	6.7	6.9	6.5	7.6	6.0	5.4	7.6	7.9	8.4	7.6
Trade and transport	58	7.1	7.4	6.9	8.2	7.0	6.2	9.1	8.2	8.4	8.3
Service	21	9.7	10.7	10.5	11.1	7.9	7.7	8.4	11.9	12.7	11.6

Length of existence as class I city											
Before 1901	25	6.7	7.1	6.9	7.4	5.7	5.2	7.2	8.0	8.7	7.6
1901–41	24	7.8	8.3	7.8	9.1	7.4	6.4	9.4	8.9	9.2	9.0
After 1941	87	7.4	7.8	7.3	8.6	6.6	6.1	8.1	9.0	9.4	8.8
New cities	10	6.3	6.4	6.5	6.6	7.1	6.4	9.0	6.2	6.3	6.3
Regional type											
Himalayan	6	10.7	12.6	11.9	12.6	9.2	9.5	8.6	14.3	14.9	13.5
Upper Ganga plains	24	8.8	9.9	10.4	9.7	7.6	7.3	8.3	10.9	12.7	9.9
Middle and lower Ganga plains	21	3.6	3.8	3.5	4.3	2.9	2.9	3.2	4.3	4.1	4.7
Central India plateau	27	7.0	7.2	6.9	7.7	6.1	5.8	7.3	7.8	8.0	7.8
Deccan plateau	35	7.1	7.1	6.3	8.2	7.1	5.4	11.0	7.8	8.7	7.4
Coastal plains	34	8.4	8.4	7.7	9.8	7.9	7.5	9.5	10.2	9.6	10.6

migrants in Meerut (16.4 percent) in the upper Ganga plains region was probably caused by counting as migrants those persons who had come to an annual fair that attracts thousands from different parts of the country for up to four weeks. By coincidence, this fair was held when the 1971 census enumeration was taking place.

The proportion of current migrants among total inmigrants from other urban areas of the same district was significantly higher than those from the district's rural areas. This finding implies higher urban-to-urban intradistrict migration during 1970–71, possibly the result of several precensus incidents relating to the rural and urban Indian economy. In contrast, the proportion of current migrants from rural areas in the combined interdistrict and interstate migration stream was higher than the proportion from urban areas, although the difference was not statistically significant (Figure 5).

The proportion of current migrants in cities of more than a million inhabitants was somewhat lower than in cities in other size categories, although no significant difference existed among them. The proportion of current migrants was higher in cities with medium growth rates and significantly higher in service cities and in cities of the Himalayan region, Punjab, and the upper Ganga plains (Figures 5 and 6). In contrast, the proportion of current migrants in cities of the middle and lower Ganga plains was significantly lower (3.6 percent) compared with cities in other regions.

Whereas the newer cities had the highest proportion of lifetime migrants (Figure 6), the proportion of current migrants in these cities was the lowest (Table 5), possibly because one development phase had ended and unless the cities attracted new investments, their power to attract migrants was limited.

The analysis of migration patterns to Indian cities indicates that the city size may not be an important determinant of future migrant flows. Between 1971 and 1981, Nagpur, Lucknow, and Jaipur moved into the category of cities with more than a million inhabitants. As more cities graduate into the million-plus category and others attain class I status, they are likely to have greater proportions of inmigrants in their populations. The proportion of inmigrants in the population of existing cities, particularly the old ones, is likely to diminish soon as a major part of the cities' growth will result from natural increase and municipal boundary expansion.

As observed earlier, newer cities of the central India plateau had

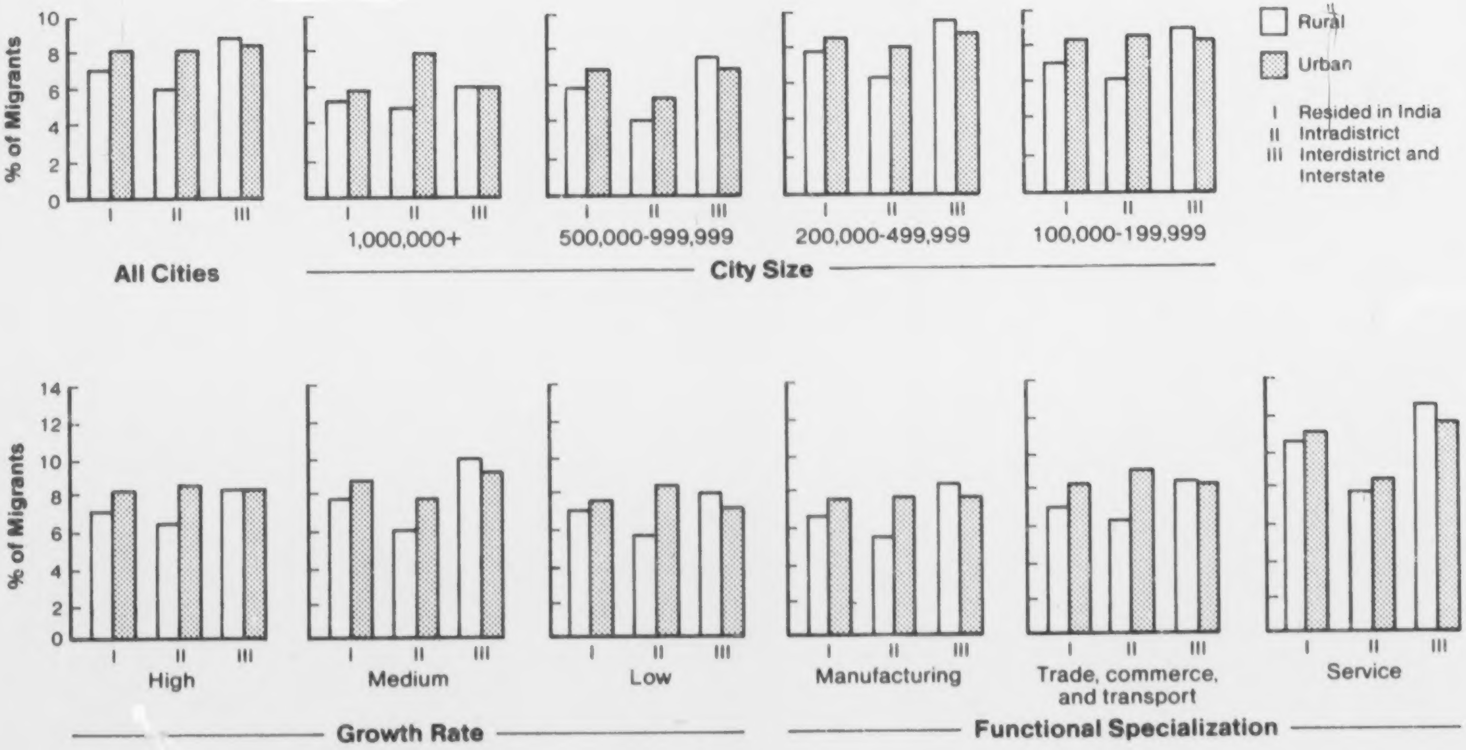

FIGURE 5. Percentages of current migrants among all migrants by last residence and by city size, growth rate, and functional specialization: India, 1971

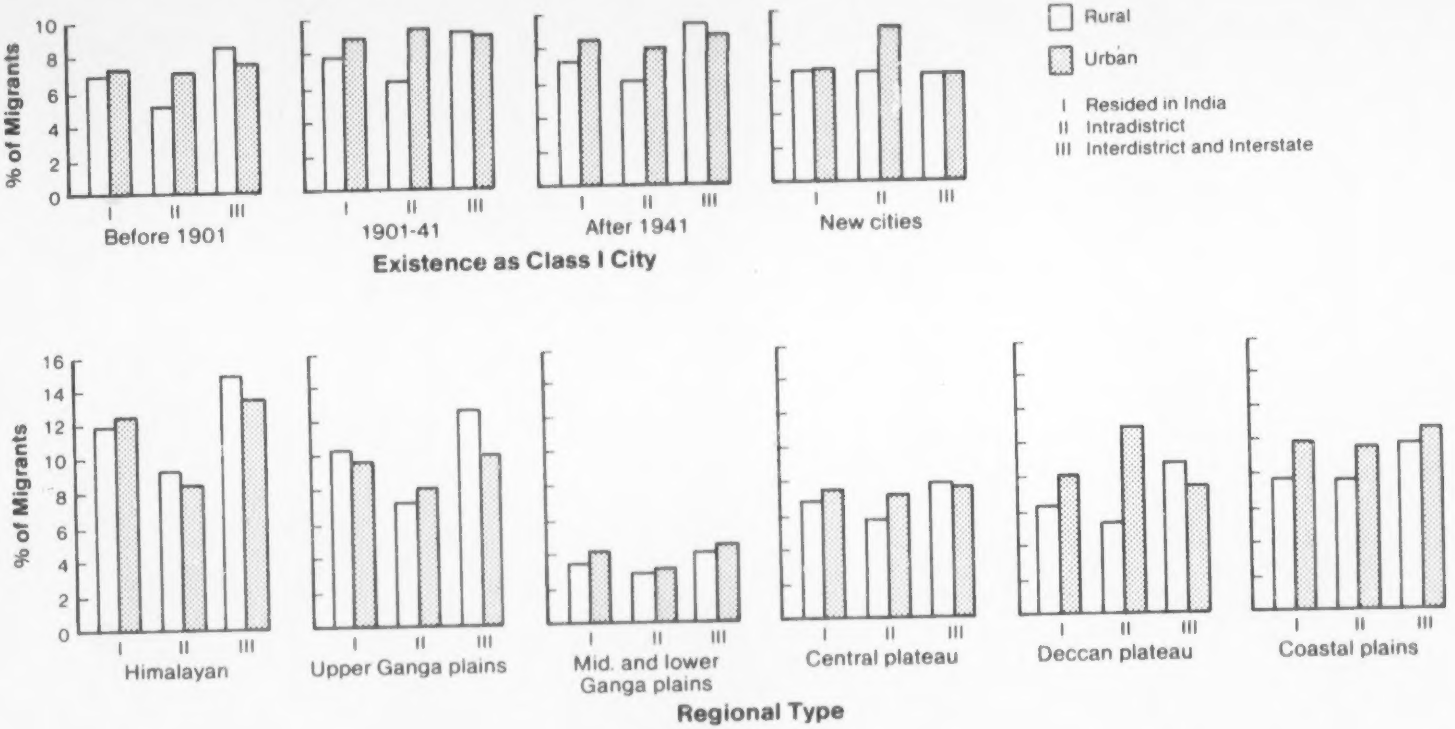

FIGURE 6. Percentages of current migrants among all migrants by last residence and by city's existence as a class I city and regional type: India, 1971

very fast growth rates during 1951–71. In contrast, older cities of the middle and lower Ganga plains experienced very slow growth and low migration rates. Since the cities in the latter category already possess infrastructural facilities, developmental efforts should be made by the state and central governments so that existing facilities are utilized at an optimum level and the cities develop at a fast pace.

As for migrant origins, urban-to-urban migration streams will play a more important role in the future of administrative and service cities since the job opportunities there require people with higher education levels. The country's pattern of industrialization–that is, the extent of industry distribution–also will determine future migration flows to Indian cities.

MIGRANT AND NONMIGRANT CHARACTERISTICS

Our analysis of some important inmigrant characteristics included factors such as sex and age composition, marital status distribution, literacy level, educational attainment, and employment patterns. These factors were compared with the same factors in the nonmigrant population to the extent that data are available for comparison.

Sex composition

It is generally believed that migration in India, particularly to the cities and metropolises, is male selective and causes an imbalance in the sex ratio of the urban areas (Zachariah, 1968:115; Simmons et al., 1977:54–55). The 1971 census data for the 147 cities, however, show that the sex ratio among the lifetime migrants was lower than that of the total population and even lower still when compared with the nonmigrants (Table 6). Two factors seem to explain the observed pattern: (1) the sex ratio of nonmigrants increases with age up to about age 40, indicating marriage migration of females from the cities, and (2) in contrast, the sex ratio of migrants aged 20 and above is lower for the same reason and because of associational migration of females.

The sex ratio of current migrants (145) was significantly higher than that of lifetime migrants (107) or the total population (115), indicating that in the initial stages migration to cities is male selective (Table 6). On the basis of 1961 census data Mitra observed that the sex ratio, although above 100, became somewhat favorable to females with longer residence durations (Mitra, 1967a:608). The pattern seems to be established further on the basis of 1971 census data; its cause

TABLE 6. Sex ratios among the total population, lifetime migrants, current migrants, and nonmigrants by city characteristic: India, 1971

City characteristics	Cities (N)	Total population	Lifetime migrants	Current migrants	Nonmigrants
All cities	147	115	107	145	121
City size					
1,000,000+	9	123	138	151	116
500,000–999,999	10	117	111	160	120
200,000–499,999	54	117	113	150	119
100,000–199,999	74	113	98	139	123
Growth rate					
High	68	117	114	142	118
Medium	51	115	103	145	123
Low	26	113	93	149	124
Functional specialization					
Manufacturing	68	115	105	146	122
Trade and transport	58	114	106	140	120
Service	21	120	116	157	121
Length of existence as class I city					
Before 1901	25	120	122	160	119
1901–41	24	112	100	148	119
After 1941	87	113	102	140	121
New cities	10	131	134	150	126
Regional type					
Himalayan	6	120	135	180	111
Upper Ganga plains	24	119	107	149	128
Middle and lower Ganga plains	21	124	109	166	132
Central India plateau	27	119	111	150	124
Deccan plateau	35	111	104	141	116
Coastal plains	34	108	100	124	113

seems to be the higher mobility of males since male migrants, in an effort to secure better job opportunities, might move alone from one city to another. In contrast, since a large part of female migration results from marriage, it is of a more stable nature. More data, however, are needed to confirm this proposition.

Analysis of total and migrant populations by city characteristics shows that sex ratios were higher for the lifetime migrants to the metropolises (Table 6). They were also higher in the new cities or those situated in the Himalayan region. The reasons for this higher male selectivity in migrant populations of cities belonging to these categories are mostly economic. The pull of the million-plus cities on both rural and urban migrants for jobs continues to attract more males. The new cities also provided male-dominated jobs and contributed to male predominance among the migrants. The cities in the Himalayan region had high sex ratios possibly because males are attracted from outer areas for heavy jobs and three of the six cities in this category have military cantonments.

The sex ratio of the lifetime migrants to the cities in the smallest size category (population of 100,000–199,999) was less than 100 (Table 6). It was also less than 100 in cities with low growth rates and cities of the coastal plains. Thus, in absolute number, more females than males migrated to those cities.

An analysis of the sex ratios of the total population, nonmigrants, and current and lifetime migrants (with migrants further classified by their place of last residence according to broad age groups) provides a clearer picture of subpopulation differentials. The sex ratio among nonmigrants increased sharply up to the age group 20–24, by which age most women are married and have left their natal home and, in many cases, the city of their birth also (Table 7, Figure 7). In contrast, the sex ratio among lifetime migrants falls sharply between the age groups 15–19 and 20–24 and dips below 90 among migrants from urban areas for the same reason that it rose among nonmigrants. The lower sex ratio for urban inmigrants than for rural ones indicates a greater amount of migration through marriage between the cities and from other urban areas, and it also indicates more family migration. The high sex ratio among rural migrants until about the age of 50 is a clear indication of male selectiveness in the rural-to-city migration stream.

The sharp rise in the sex ratio of current migrants up to ages 25–49 indicates male-dominated inmigration during 1970–71. It is likely that the urban economy was trying to recover from the small recession of the late 1960s and therefore attracted large male migration in the active age group.

Females dominated intradistrict lifetime migration but males dominated interdistrict and interstate migration in almost all age groups (Table 7), indicating that the marriage field for females has been

TABLE 7. Sex ratios by age among the total population and among nonmigrants, lifetime migrants, and current migrants to cities by place of last residence: India, 1971

Type of population and migrants' place of last residence	Age group					
	All ages	0–14	15–19	20–24	25–49	50+
Total population	115	107	119	122	124	118
Nonmigrants	121	106	127	157	163	158
Lifetime migrants						
Total	107	113	112	100	108	102
Last residence in India						
Rural	111	118	127	110	112	100
Urban	102	109	96	89	105	106
Last residence in district of enumeration						
Rural	96	116	114	92	93	88
Urban	95	122	87	86	95	101
Current migrants						
Total	145	113	128	164	218	125
Last residence in India						
Rural	162	125	157	194	219	130
Urban	140	108	104	144	207	129
Last residence in district of enumeration						
Rural	156	118	154	190	233	136
Urban	142	124	88	141	214	150

restricted largely to the intradistrict population whereas medium- and long-distance migration have been generally governed by economic considerations.

Age distribution

Figure 8 shows age pyramids for India's total population, of all the 147 cities' populations, nonmigrants, and migrants, migrants being further classified by rural or urban origin on the basis of their last residence. The age distribution of the total population of the cities seems to conform largely to the age distribution of the country's total population (Figure 8A). In the population of the cities the proportion of males below age 15 was somewhat lower than that of females, but the number of males was proportionately higher in the age group 25–49. Among nonmigrants, children below age 15 constituted more

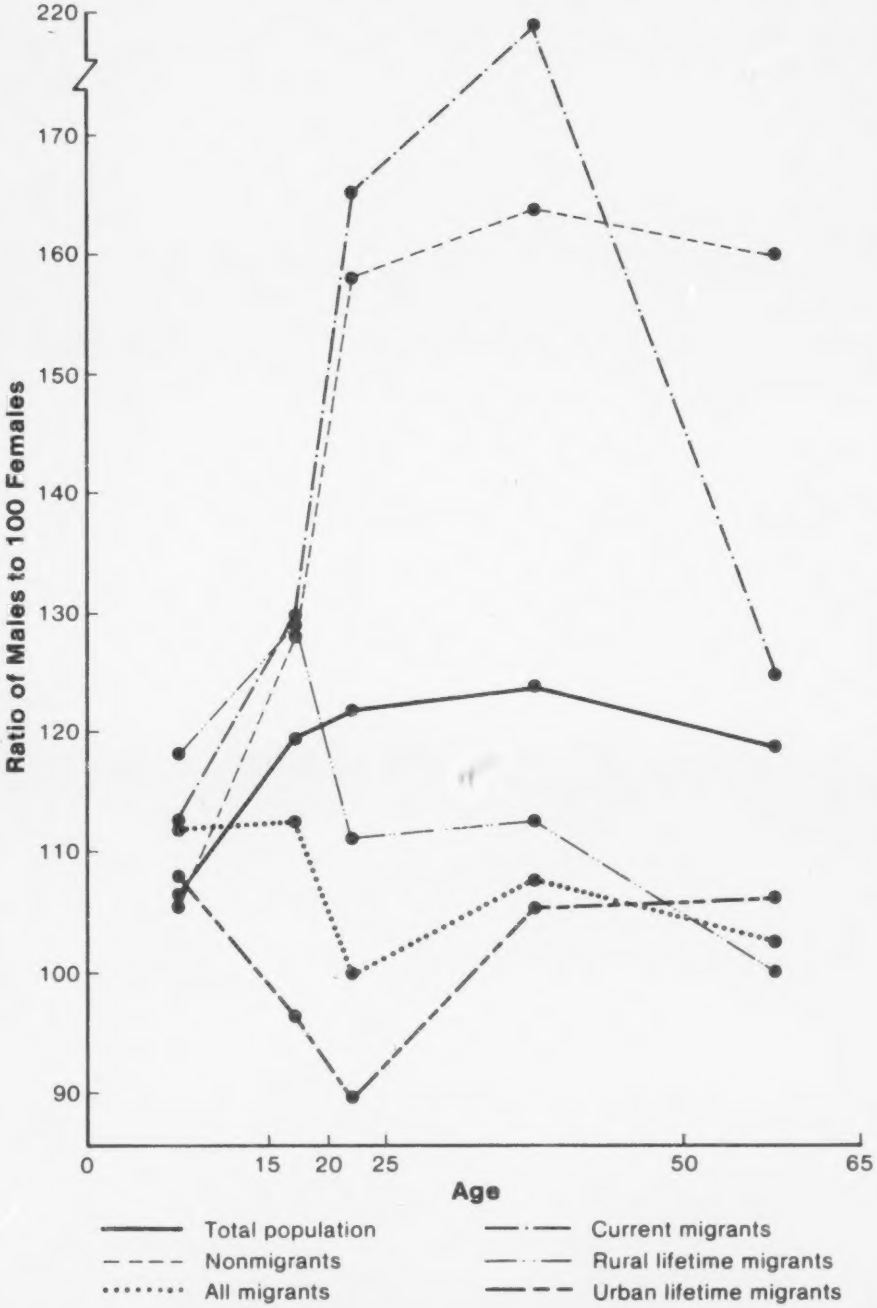

FIGURE 7. Sex ratios by age among the total population, nonmigrants, and migrants to cities: India, 1971

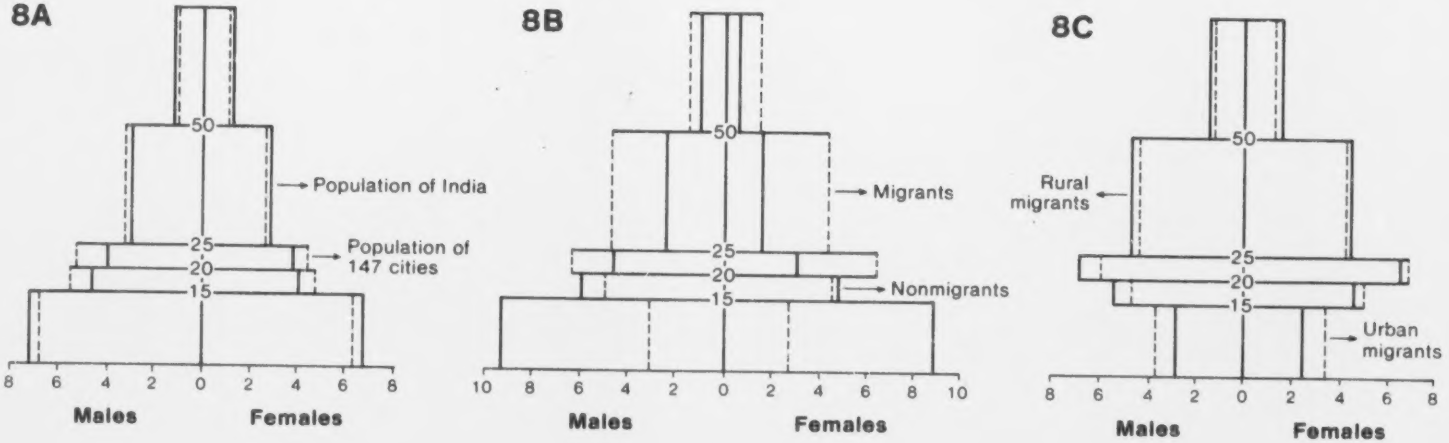

FIGURE 8. Age pyramids of the total population and specified subpopulations: India, 1971

than half of the total population, it being almost three-fifths among females (Table 8). Three reasons contribute to the pattern: (1) after marriage females shift to the husband's home, which is generally located outside the city of wife's birth; (2) although cities attract migrants from far and wide, they also send people to other cities (city-to-city migration), smaller urban areas, and even to rural areas, which causes a trough in the working age groups of the nonmigrant age pyramid (Figure 8B; Table 8); and (3) since the new cities have a comparatively large proportion of migrants, they have a smaller proportion of nonmigrants, especially above age 40. Children born to migrants at various destinations through the years are counted as nonmigrants; this raises the proportion of 0–14-year-olds among nonmigrants. In contrast, the proportion of migrant children below the age of 15 remained quite low (Figure 8B). Among children who were below 15 at the time of migration, many would have advanced to an older age group by the time of the census. This aspect becomes clearer from the comparison of the age distributions of current migrants and lifetime migrants (Table 8).

Young migrants below the age of 15 from urban areas constituted a significantly higher proportion than those from rural areas (Figure 8C and Table 8) owing to a higher proportion of family migration. This tendency seems to have been more prevalent among intradistrict current migrants.

Marital status

Certain interesting observations can be made about the marital status of migrants from data on their sex-age-marital status published for the first time in the 1971 census. Since the tabulations provide information as of the census date and not as of the time of migration, they conceal changes in marital status that might have taken place between the two time points. The data on current migrants, however, can be taken to represent fairly accurately the picture of marital status at the time of the move. Assuming that most women in India marry before reaching age 25, we may also assume that the proportion of married women below age 25 among current migrants is the extent of marriage migration to class I cities. The migration of unmarried females in the age group 15–24, especially 20–24, may be assumed to represent migration to pursue higher studies or employment. Migration of unmarried females 25 years and older is assumed to be for economic

TABLE 8. Age percentage distributions of the total population, non-residence: India, 1971

Sex and age group	Total population	Nonmigrant population	Total migrants		Migrants
					Rural
			Lifetime	Current	Lifetime
Both sexes					
0–14	39.36	54.32	17.32	29.45	15.70
15–19	10.24	10.59	9.51	14.04	10.00
20–24	9.78	7.71	12.77	16.80	13.32
25–49	30.28	20.03	45.47	32.02	45.66
50+	10.34	7.35	14.93	7.69	15.31
All ages	100.00	100.00	100.00	100.00	99.99
Males					
0–14	20.32	27.92	9.12	15.35	8.42
15–19	5.54	5.86	4.93	7.60	5.47
20–24	5.35	4.61	6.32	10.06	6.86
25–49	16.70	11.95	23.27	21.45	23.57
50+	5.55	4.26	7.44	4.19	7.45
All ages	53.46	54.60	51.08	58.66	51.78
Females					
0–14	19.05	26.40	8.20	14.09	7.28
15–19	4.70	4.73	4.58	6.44	4.53
20–24	4.43	3.10	6.45	6.73	6.46
25–49	13.58	8.07	22.20	10.57	22.10
50+	4.79	3.09	7.49	3.50	7.85
All ages	46.54	45.40	48.92	41.33	48.22

reasons while migration of married females may be considered primarily associational–accompanying the husband to his new place of work.

Marital status distribution of the migrants (Table 9) shows that the proportion of unmarried persons of both sexes was much higher among current migrants than lifetime migrants. This was mainly because the marital status of many migrants changes–through marriage, widowhood, divorce, or separation–after they reach their destinations. Migrants from urban areas had greater proportions of unmarried persons of both sexes, which is understandable since the age at marriage in urban areas is higher than in rural areas (Goyal, 1975:337). The migrants, and lifetime and current migrants to cities by place of last

with last residence in India			Migrants with last residence within the district of enumeration			
	Urban		Rural		Urban	
Current	Lifetime	Current	Lifetime	Current	Lifetime	Current
27.74	21.32	32.05	15.89	29.74	21.46	35.05
16.55	9.69	11.25	10.30	15.45	10.29	12.57
17.56	12.85	16.10	12.46	15.26	12.42	14.74
30.32	43.49	33.49	44.88	30.47	42.64	30.56
7.83	12.65	7.12	16.47	9.09	13.19	7.07
100.00	100.00	100.01	100.00	100.01	100.00	99.99
14.71	11.05	16.41	8.41	15.38	11.21	18.54
9.49	4.66	5.44	5.31	8.26	4.65	5.66
11.01	5.95	9.06	5.83	9.55	5.43	7.83
20.53	21.88	22.30	21.16	20.28	20.09	20.04
4.18	6.40	3.85	7.54	5.01	6.36	3.94
59.91	49.94	57.07	48.25	58.50	47.74	56.01
13.03	10.27	15.64	7.48	14.35	10.25	16.51
7.06	5.03	5.81	4.99	7.18	5.63	6.91
6.55	6.90	7.03	6.63	5.70	6.99	6.91
9.80	21.61	11.18	23.72	10.19	22.55	10.53
3.65	6.25	3.26	8.92	4.07	6.83	3.13
40.09	50.06	42.93	51.75	41.50	52.26	43.99

data on the marital status of current migrants indicate that at the time of migration to cities more than half (53.6 percent) of the males and about two-fifths of the females were unmarried; the proportion of widowed, divorced, or separated current migrants was small—only about 4 percent (Table 9).

The marital status patterns of lifetime and current migrants in the age group 0–14 was almost the same (Table 10), with slightly higher proportions of married persons among current migrants. The proportion of married persons—both males and females—in age group 15–24 among current migrants was significantly higher than among lifetime migrants and, in turn, the proportion of unmarrieds was significantly

TABLE 9. Marital status percentage distributions of lifetime and current migrants to cities by sex and by rural and urban character of place of last residence: India, 1971

Place of last residence and sex	Lifetime migrants: Unmarried	Lifetime migrants: Married	Lifetime migrants: Widowed, divorced, and separated	Current migrants: Unmarried	Current migrants: Married	Current migrants: Widowed, divorced, and separated
Total migrants						
Both sexes	31.74	61.19	6.99	48.53	47.47	3.95
Males	40.00	57.02	2.88	53.62	44.40	1.92
Females	23.35	65.40	11.21	41.35	51.88	6.76
Resided in India (rural)						
Both sexes	29.12	63.28	7.55	47.06	48.60	4.31
Males	37.92	58.94	3.05	52.81	45.17	1.98
Females	19.91	67.85	12.21	38.50	53.88	7.61
Resided in India (urban)						
Both sexes	37.34	56.87	5.71	50.64	45.75	3.58
Males	45.48	51.98	2.42	55.37	42.74	1.84
Females	29.49	61.48	8.98	44.49	49.61	5.88

NOTE: Percentages for marital status do not always sum to 100 because in certain cases marital status was not specified.

lower. In contrast, the proportion of unmarried persons of both sexes was higher among current migrants in upper age groups. Various socioeconomic factors seem to have generated these differentials among lifetime and current migrants. There was probably a greater tendency among the married male migrants in the age group 15–24 to move to a new destination with a wife (and possibly children).

Literacy and educational attainment

Studies conducted in India show that migrants to the cities generally have lower educational attainment than nonmigrants and are placed in low-paid urban occupations—what has been termed the urban informal sector (Zachariah, 1968:167, 341–42; Mitra et al., 1980:67–68). Reviewing research findings on social change and internal migration, Simmons et al. concluded on the basis of Asian studies, however, that migrants are not the "dregs of society" or illiterate laborers but are more educated than those they leave behind (Simmons et al., 1977:55). We believe that migrants generally possess higher levels of

TABLE 10. Marital status percentage distributions of lifetime and current migrants to the cities by age group, sex, and duration of residence: India, 1971

Age group and marital status	Lifetime migrants			Current migrants		
	Both sexes	Males	Females	Both sexes	Males	Females
0–14						
Unmarried	98.50	99.50	97.31	98.07	99.34	96.51
Married	1.44	0.44	2.62	1.90	0.62	3.46
Widowed, separated, and divorced	0.01	0.01	0.02	0.01	0.004	0.02
15–24						
Unmarried	52.77	78.47	27.20	52.11	74.21	23.94
Married	46.69	21.10	72.16	47.40	25.48	75.37
Widowed, separated, and divorced	0.40	0.24	0.56	0.43	0.23	0.66
25–49						
Unmarried	5.78	9.79	1.46	10.15	13.81	2.77
Married	89.95	88.18	91.99	86.17	84.11	90.61
Widowed, separated, and divorced	4.22	1.96	6.54	3.63	2.01	6.59
50+						
Unmarried	1.42	2.29	0.54	2.54	3.58	1.08
Married	65.00	84.59	45.63	61.99	80.32	40.33
Widowed, separated, and divorced	33.48	12.97	53.79	35.40	16.04	58.49

NOTE: Percentages for marital status do not always sum to 100 because in certain cases marital status was not specified.

education than do nonmigrants in the cities. When educational attainment is controlled, migrants are found in higher proportions in white-collar jobs than are nonmigrants.

We expected that the longer the distance traveled, the better educated the migrants would be–specifically, that the educational levels of the interstate migrants would be higher than those of intradistrict or interdistrict migrants. The definition of literacy in the Indian census is "ability to read and write simple letters in any language with understanding." To test our hypothesis, we computed literacy rates by placing total population (including children below age 5) in the denominator, since the detailed age breakdown of literates, total

TABLE 11. Literacy rates of nonmigrants, migrants (classified by mi-
1971

City characteristics and sex of population group	Cities (N)	Nonmigrants	Total migrants
All cities			
Both sexes	147	48.2	61.6
Males	147	55.4	74.3
Females	147	39.6	48.5
City size			
1,000,000+	9	54.8	64.3
500,000–999,999	10	48.2	62.5
200,000–499,999	54	48.8	62.9
100,000–199,999	74	47.0	60.2
Growth rate			
High	68	49.0	62.7
Medium	51	47.6	61.1
Low	26	48.1	60.1
Functional specialization			
Manufacturing	68	48.1	60.1
Trade and transport	58	48.5	62.3
Service	21	48.0	64.3
Length of existence as class I city			
Before 1901	25	49.9	62.7
1901–41	24	49.2	62.6
After 1941	87	48.6	60.9
New cities	10	37.7	61.3
Regional type			
Himalayan	6	51.3	63.5
Upper Ganga plains	24	44.4	58.1
Middle and lower Ganga plains	21	43.3	59.1
Central plateau	27	46.3	61.0
Deccan plateau	35	49.2	61.0
Coastal plains	34	53.9	66.2

population, and migrants to each city is not available. The formula used is:

$$\text{literacy rate} = \frac{\begin{array}{l}\text{number of literate and educated}\\ \text{persons in any subcategory or area}\end{array}}{\begin{array}{l}\text{total population of that subcategory}\\ \text{or area}\end{array}} \times 100$$

gration stream), and migrant workers by city characteristic: India,

Migrants with last residence in India				
Total	Elsewhere in the district	In other districts of the same state	In other states	Migrant workers
61.3	54.2	66.2	66.1	71.8
73.9	71.3	76.7	74.4	75.7
48.4	38.6	55.2	56.4	41.7
62.8	57.4	64.8	65.7	72.3
62.1	46.7	66.4	71.5	73.5
62.6	54.2	67.5	67.7	72.5
60.0	55.0	65.5	64.3	71.0
62.4	56.6	66.8	64.7	71.8
60.7	51.9	66.2	68.1	71.7
60.0	54.1	65.1	66.4	72.9
59.8	53.0	64.3	65.1	70.6
61.9	56.3	67.4	65.8	72.1
64.2	52.8	69.7	70.4	75.0
61.9	50.3	64.9	68.6	72.7
62.5	53.6	69.1	69.1	73.3
60.7	56.1	65.7	65.2	71.2
61.3	49.0	65.2	60.9	71.1
63.8	55.5	70.4	69.0	70.4
57.7	48.6	60.9	65.1	70.9
58.1	47.9	66.6	67.2	71.4
60.6	49.7	63.8	64.8	71.3
61.0	56.9	66.7	63.4	70.6
66.1	63.2	70.2	69.6	74.7

Table 11 shows literacy rates of nonmigrants and migrants by city characteristic, migrants being further classified by migration streams. Literacy rates of migrants were much higher than those of nonmigrants, probably because of variations in the age composition of the two subpopulations.[13] The differences were greater for males than for females.

Literacy rates of intradistrict migrants were consistently lower than of interdistrict or interstate migrants in all city categories classified according to city characteristics. This finding implies that illiterate migrants generally travel short distances because (1) they tend to be poor, have almost no entrepreneurial skills, and do not have the resources to go farther; (2) they do not receive as much information as the literates do about job opportunities of far-off places; and (3) as unskilled workers, they do not believe that they would receive higher wages by traveling long distances. Therefore, illiterate migrants prefer to move to the nearest city, which generally is only of local economic importance. No significant literacy-rate differences were found among interdistrict and interstate migrants in most categories when the migrants were classified according to city characteristics.

Although the literacy rate of total migrants to the metropolises was higher than for other cities, the difference became significant only between the largest and smallest city classes (Table 11). The literacy rate of migrants to service cities was higher than that of migrants to cities in the other functional specializations, but it became significant only in comparison with the rate for the manufacturing cities. The difference was probably due to inmigration of higher proportions of illiterates to manufacturing cities. Literacy rates of migrants to cities in the Indo-Gangetic plains (regions 2 and 3) were significantly lower than the rates of migrants to coastal-plains cities.

Of the 31 cities with more than 50 percent of the intradistrict migrants, 22 were in the Deccan plateau and coastal-plains regions; however, the literacy rates of these two regions were not the lowest (Table 11). The low literacy rates of intradistrict migrants have probably pulled down literacy rates in the cities of these two regions.

The literacy rates of migrant workers were higher than the rates for total migrants in all city categories. However, the literacy rate of female migrant workers was lower than the rate for all female migrants (Table 11). This may mean that a majority of the women workers in these cities were engaged in unskilled jobs or that a majority of literate and educated women migrated to the cities to marry or to accompany the family breadwinner and may not have taken jobs after moving to the cities.

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[13] The literacy rates of the nonmigrants and the migrants are not strictly comparable because of the difference in age composition of the two subpopulations—nonmigrants having a considerably larger proportion of children below the age of 15 and migrants a much larger proportion above the age of 25. But one expects almost all children above the age of 7 or 8 in the cities to be literate. This, along with the higher sex ratio of nonmigrants in higher age groups, should lead to higher literacy rates. On this assumption we compare the literacy rates of the nonmigrant and the migrant subpopulations of class I cities. It would be more valid to compare the literacy rates of workers in the two subpopulations for a set of selected cities.

The distribution of male, female, and total migrants by levels of education (Figure 9 and Table 12) shows that a little more than one-fifth of the total migrants were educated at least to the high school level (a minimum of ten years of schooling). The proportion was three-tenths among males and a little more than one-tenth among females.

As for educational levels of migrants in different migration streams, we expected that the longer the distance migrants traveled, the better educated they would be. In the absence of data on actual distances traveled by migrants from last residence to the current one, we assumed that the interstate migration stream represented long-distance movement, interdistrict the medium-distance, and intradistrict the short-distance movement. The educational levels of interstate migrants should, therefore, be higher than those of interdistrict migrants, and their educational levels, in turn, should be higher than those of intradistrict migrants. Our data indicate that the proportions of intradistrict migrants in higher educational categories were smaller than those of interdistrict and interstate migrants. The differences became statistically significant with middle (eighth grade) or higher levels of education. Further, the differences were sharper in the case of females (Figure 9).

For the two sexes combined there was hardly any difference between the distribution of interdistrict and interstate migrants (the index of dissimilarity[14] being equal to one). This may indicate that migrants in the two streams traveled similar distances in moving to their current destinations, or that distances beyond a certain range did not make any difference in the educational attainment of the migrants. When a comparison is made by sex, however, the proportions of male migrants with high school (more than ten but fewer than 14 years of schooling) and with graduate (more than 14 years) levels of

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[14] The index of dissimilarity is defined as half the sum of the absolute differences (without regard to signs) of two percentage distributions relating to the same or similar items.

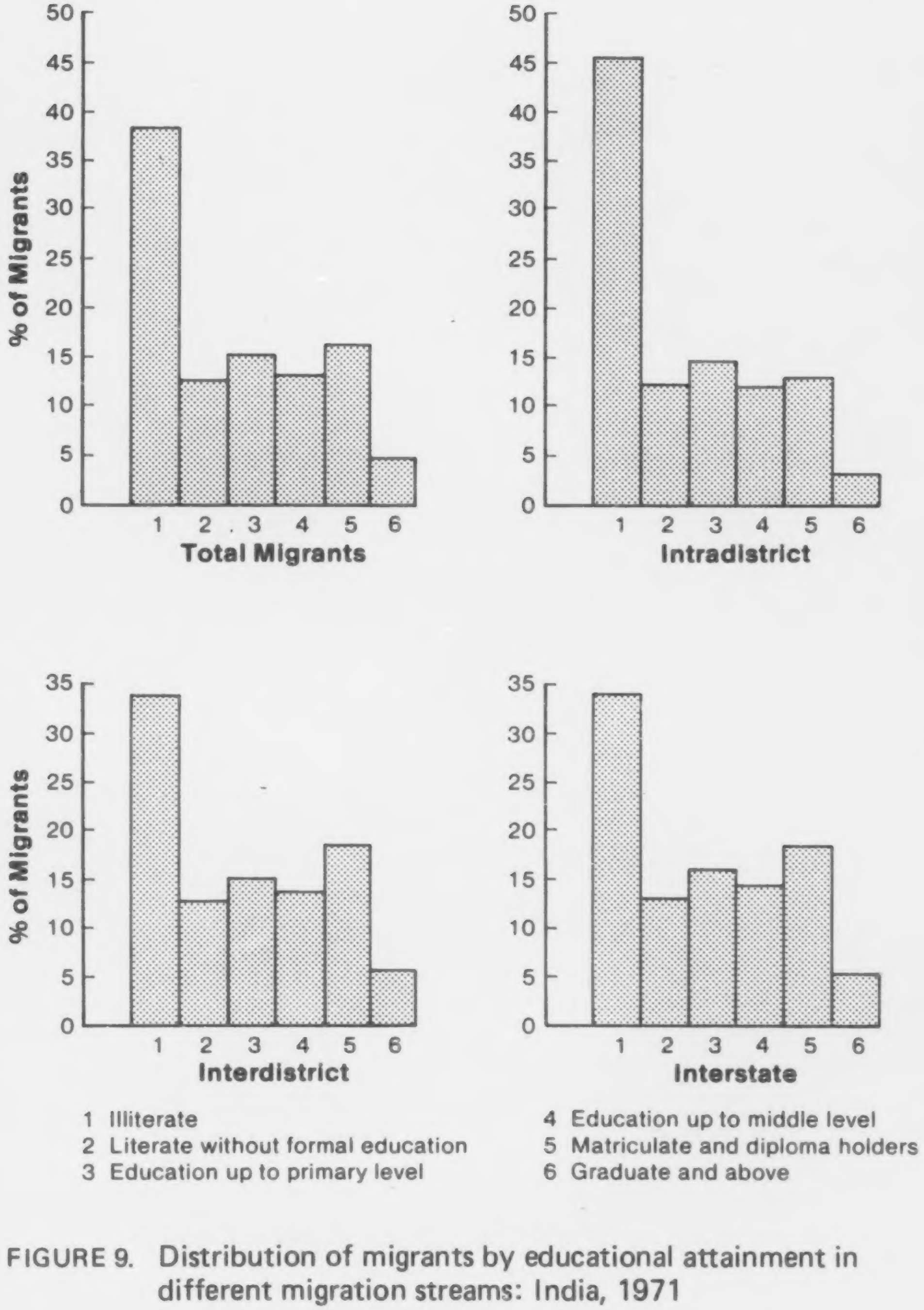

FIGURE 9. Distribution of migrants by educational attainment in different migration streams: India, 1971

TABLE 12. Percentage distributions of migrants in different migration streams and of migrant workers of each sex by education: India, 1971

Migration stream and sex	Cities (N)	Educational level						
		Illiterate	Literate without formal education	Up to primary level	Primary to middle level (8th grade)	High school and diploma	Graduate and above	All levels
Total migrants								
Both sexes	147	38.43	12.59	15.27	13.03	16.09	4.59	100.00
Males	147	25.66	13.17	15.89	15.28	22.95	7.05	100.00
Females	147	51.54	12.06	14.70	10.75	8.95	2.00	100.00
Last residence in India								
Both sexes	147	38.73	12.60	15.13	12.93	15.99	4.62	100.00
Males	147	26.11	13.18	15.72	15.11	22.77	7.12	100.01
Females	147	51.60	12.06	14.59	10.74	9.00	2.02	100.01
Last residence elsewhere in district of enumeration								
Both sexes	144	45.75	12.34	14.63	11.66	12.75	2.87	100.00
Males	144	28.72	13.73	16.20	15.45	20.77	5.12	99.99
Females	144	61.43	11.16	13.24	8.19	5.22	0.77	100.01
Last residence in other districts of the state								
Both sexes	145	33.76	12.78	15.18	13.92	18.38	5.99	100.01
Males	145	23.28	12.75	14.71	14.82	25.25	9.22	100.03
Females	145	44.78	12.90	15.71	13.01	11.06	2.54	100.00
Last residence in other states								
Both sexes	147	33.87	13.03	15.75	13.99	18.06	5.30	100.00
Males	147	25.65	13.42	16.20	15.02	22.59	7.12	100.00
Females	147	43.55	12.62	15.22	12.59	12.79	3.23	100.00
Migrant workers								
Both sexes	147	28.19	10.48	15.52	14.42	22.75	8.64	100.00
Males	147	24.27	11.19	16.89	15.52	23.41	8.72	100.00
Females	147	58.29	4.41	4.90	5.44	17.55	9.42	100.01

TABLE 13. Percentage distributions of male and female migrants by

		Males			
City characteristics	Cities (N)	Illiterate	Literate without formal education	Up to primary level	Primary to middle level (8th grade)
All cities	147	25.66	13.17	15.89	15.28
City size					
1,000,000+	9	26.55	11.81	15.94	14.91
500,000–999,999	10	24.27	13.86	15.82	12.78
200,000–499,999	54	25.79	12.86	15.29	14.59
100,000–199,999	74	25.65	13.46	16.33	16.16
Growth rate					
High	68	25.79	13.09	16.51	15.51
Medium	51	25.74	13.15	15.40	14.23
Low	26	24.83	13.22	15.68	16.38
Functional specialization					
Manufacturing	68	26.73	13.86	16.48	15.17
Trade and transport	58	25.13	12.57	16.41	15.72
Service	21	23.68	12.58	12.56	14.39
Length of existence as class I city					
Before 1901	25	26.09	12.39	15.31	13.62
1901–41	24	24.91	13.12	16.27	14.08
After 1941	87	25.59	13.46	16.34	15.91
New cities	10	27.42	12.41	11.91	16.60
Regional type					
Himalayan	6	26.68	10.56	12.21	18.12
Upper Ganga plains	24	29.15	12.16	13.04	13.23
Middle and lower Ganga plains	21	25.64	11.70	10.71	15.59
Central India plateau	27	26.22	17.52	14.04	11.95
Deccan plateau	35	25.29	11.42	18.52	17.93
Coastal plains	34	22.97	13.59	20.52	15.93

education were much higher among interdistrict migrants than among interstate migrants, the differences being statistically significant. In contrast, among females the proportions of high school completers and diploma holders and of college graduates and above were significantly higher among the interstate migrants than interdistrict migrants. Thus, while the finding for males negates our assumption, the finding for females does not. As an explanation for the particular pattern for males, we suspect that in cities located near state borders, there is substantial interstate migration between bordering districts. Although hard data are not available to confirm this theory, we find that of the education of each sex by city characteristic: India, 1971

		Females						
High school and diploma	Graduate and above	Illiterate	Literate without formal education	Up to primary level	Primary to middle level (8th grade)	High school and diploma	Graduate and above
22.95	7.05	51.54	12.06	14.70	10.75	8.95	2.00
22.99	7.80	47.81	10.94	15.20	11.60	11.61	2.83
24.22	9.04	51.86	12.89	13.33	9.22	10.18	2.92
23.98	7.49	49.44	12.05	14.62	11.03	10.39	2.47
22.02	6.37	53.48	12.15	14.89	10.64	7.40	1.44
22.32	6.77	50.09	11.99	15.09	11.31	9.40	2.12
23.86	7.63	52.00	12.47	14.41	10.02	9.02	2.07
23.23	6.64	53.16	11.64	14.99	10.82	7.85	1.57
21.48	6.29	53.20	12.13	14.30	9.99	8.58	1.81
23.52	6.64	50.41	11.99	15.98	11.45	8.54	1.63
26.13	10.66	49.25	12.07	12.49	11.26	11.28	3.65
24.13	8.45	50.37	11.54	14.08	10.25	10.94	2.81
24.15	7.46	49.68	11.75	15.07	10.66	10.48	2.36
22.21	6.48	52.32	12.32	15.05	10.72	7.97	1.61
23.95	7.70	52.39	11.77	12.00	12.39	8.86	2.58
22.92	9.51	48.96	10.25	12.32	14.09	10.86	3.49
24.54	7.88	54.96	10.36	12.33	9.09	10.36	2.89
26.41	9.95	55.68	11.41	11.45	11.36	7.82	2.30
22.85	7.41	52.94	15.62	11.97	8.13	9.05	2.30
21.80	5.04	53.09	9.94	15.90	11.99	7.96	1.11
20.96	6.04	44.30	13.35	19.74	11.74	9.25	1.61

24 cities with high proportions of total migrants in the interstate stream, six were in border districts and three were union territories.[15]

A comparison of educational backgrounds of male migrants according to city characteristics indicates that those with high school or higher educational attainment comprised 33.3 percent in cities of a half-million to one million inhabitants but only 28.4 percent in cities with populations between 100,000 and 200,000 (Table 13). No significant differences existed in educational levels according to the cities' growth rates, but manufacturing cities had a significantly lower percentage (27.8) of male migrants with at least a high school education than did service cities (36.8 percent). It is noteworthy that the proportion of male migrants with high school or higher educational attainment was lower in the Deccan plateau and coastal-plains cities than in the cities of the middle and lower Ganga plains. Cities of the Deccan plateau and coastal plains had larger shares of intradistrict migrants and the migrants had lower proportions of highly educated people. A similar analysis of educational levels of female migrants can be made from the data contained in Table 13.

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[15] Of the three union territories, Chandigarh and Delhi are not further subdivided into districts; the districts of Pondicherry are noncontiguous.

Our analysis of literacy rates of lifetime migrant and nonmigrant workers in the 20 cities for which data are available (Table 14) shows that there was no significant difference between the proportion of literates (76.2 percent among male migrants and 74.0 percent among male nonmigrants) when the comparison is made using the eight million-plus cities (all except Calcutta). The difference in the proportion of literates (77.6 percent among migrant and 67.6 percent among nonmigrant workers), however, becomes significant when the comparison is made with all 20 cities. The situation was similar for female workers.

Moreover, with respect to educational attainment, the proportion of male migrant workers with high school and other diplomas and in graduate and above categories was significantly higher than the proportion of nonmigrants (Table 14), whether we make the comparison using the eight metropolises or all 20 cities. Among women, although the proportion of migrant workers in both these educational categories was higher than that of nonmigrant workers, the differences were significant only when all 20 cities were considered together. These data on 20 cities establish superiority of migrant workers over nonmigrant ones in educational attainment. Our finding implies that migrants, particularly males, move to the cities because they are mainly attracted by better job opportunities there, not because of poor conditions in rural areas. The finding that migrants are not the "dregs of society" (Simmons et al., 1977:55) is further confirmed.

Work participation rates

Since male migration to the cities occurs primarily for economic reasons, one might reasonably expect male work participation rates

TABLE 14. Percentage distributions of male and female migrant and nonmigrant workers by education: 20 selected cities of India, 1971

	All 20 cities				8 metropolises			
	Males		Females		Males		Females	
Educational level	Migrant	Nonmigrant	Migrant	Nonmigrant	Migrant	Nonmigrant	Migrant	Nonmigrant
Literate and educated	77.6	67.6	54.1	43.6	76.2	74.0	52.4	52.6
Literate without formal education	11.3	12.7	3.9	5.2	10.3	11.0	3.6	4.6
Up to primary level	15.4	17.7	4.2	5.2	16.7	19.1	5.0	6.8
Primary to middle level	14.9	15.0	6.1	5.6	15.1	17.9	5.8	7.1
High school and diploma	25.6	17.3	25.0	17.6	24.7	20.5	25.6	23.5
Graduate and above	10.4	5.0	15.0	9.9	9.3	5.5	12.4	10.6

NOTES: Table excludes cultivators and agricultural laborers, if any. Here, the percentage of migrant workers of a particular sex with a specific level of educational attainment equals the number of migrant workers of that sex having the given level of educational attainment divided by the total number of migrant workers of that sex, multiplied by 100. The percentage of nonmigrant workers of a particular sex with a specific level of educational attainment equals the number of district urban workers of that sex having the particular educational attainment minus the number of migrant workers of that sex and educational attainment divided by the number of district urban workers of that sex minus the number of migrant workers of that sex, multiplied by 100.

(WPRs)[16] in all age groups to be higher than those of nonmigrants. In contrast, as females migrate mainly because of marriage or to accompany the family breadwinner rather than to seek employment, their WPRs are expected to be lower than those of nonmigrant women. This would particularly apply to the younger age group. With older women it is probable that after a certain lapse of time they become economically active, either by taking a job or by becoming self-employed. Since the age distributions of migrants and nonmigrants were quite different (Figure 6), it would not have been very useful to compare their overall WPRs. Table 15 therefore gives the WPRs of migrants and nonmigrants separately by sex for the 15–29 and 30–59 age groups. As all able-bodied males above the age of 25 or 30 were expected to be gainfully employed, there was little difference in the WPRs of migrants and nonmigrants in the age group 30–59, although the rate was slightly higher for migrants (93.5 percent compared with 92.9 percent). The WPR of male migrants in the 15–29 age group (61.9 percent), however, was significantly higher than that of nonmigrants (56.5 percent), and it applied to all categories of cities (Table 15). But in many cases the differences were not statistically significant. Since almost two-fifths of male migrants 15–29 could not be unemployed, a substantial proportion had probably come to the cities to pursue higher educations.

Data on enrollment of males 15–29 are not available for 1971. From 1981 census tabulations, however, some estimates are possible. Among 25.0 million urban males in that age group, 25.6 percent were attending school or college. It is likely that some of them also were working. Of the total, 15.8 percent had completed high school and were pursuing higher studies. They can be assumed to have been full-time students. Of the 3.7 million 15–29 year old male lifetime migrants to urban areas with employment as the main reason for migration, 7.5 percent were nonworkers (Census of India 1981, 1984:200–203, 360–61). As the conditions in 1971 differed little from those in

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[16] The work participation rate is defined as: $w_{ij} = \frac{W_{ij}}{P_{ij}} \times 100$,

where w_{ij} = work participation rate of sex i in age group j, W_{ij} = Workers of sex i in age group j, and P_{ij} = Population of sex i in age group j. In the computation of the overall work participation rates for a particular category all workers in that category are taken in the numerator and total population of that category (including all children and old people) are taken in the denominator.

TABLE 15. Work participation rates of male and female migrants and nonmigrants by city characteristic and age group: India, 1971

City characteristics	Cities (N)	Migrants				Nonmigrants			
		Males		Females		Males		Females	
		15–29	30–59	15–29	30–59	15–29	30–59	15–29	30–59
All cities	147	61.9	93.5	7.7	11.4	56.5	92.9	8.0	14.9
City size									
1,000,000+	9	72.4	94.6	8.1	10.6	52.9	92.0	7.2	12.6
500,000–999,999	10	62.0	92.1	6.1	10.6	57.1	93.2	6.4	13.6
200,000–499,999	54	63.9	93.9	8.1	11.1	56.0	92.6	8.2	14.1
100,000–199,999	74	59.2	93.3	7.6	11.7	57.3	93.1	8.1	16.0
Growth rate									
High	68	65.6	94.3	8.9	13.0	56.5	93.0	8.9	16.6
Medium	51	58.6	93.3	6.4	9.7	57.2	93.2	7.1	13.2
Low	26	57.8	92.4	6.2	9.3	55.4	92.3	6.7	13.0
Functional specialization									
Manufacturing	68	64.6	93.2	8.2	12.2	57.9	92.5	8.9	16.4
Trade and transport	58	59.2	93.9	7.3	11.0	56.1	93.2	7.4	14.6
Service	21	60.8	93.4	7.2	9.5	53.3	93.0	6.6	11.1
Length of existence as class I city									
Before 1901	25	67.2	93.4	6.2	9.1	56.4	92.6	6.0	10.9
1901–41	24	60.6	93.1	7.7	10.4	55.6	92.7	7.7	14.1
After 1941	87	60.0	93.4	8.1	12.2	57.0	92.9	8.5	16.4
New cities	10	68.1	96.2	7.8	11.2	55.4	94.0	8.5	14.5
Regional type									
Himalayan	6	64.3	92.3	7.9	11.5	44.0	89.1	8.0	15.0
Upper Ganga plains	24	66.8	93.3	4.6	6.0	57.3	92.9	4.4	7.6
Middle and lower Ganga plains	21	53.0	92.6	4.2	6.5	52.9	91.7	3.9	8.3
Central India plateau	27	65.0	94.7	7.8	12.0	56.6	93.6	7.4	16.7
Deccan plateau	35	59.2	93.7	8.9	14.2	59.3	93.8	10.3	18.9
Coastal plains	34	63.9	93.3	10.8	14.6	57.5	92.6	11.0	18.6

1981, one may conclude that of the two-fifths of male migrants 15–29 who were nonworkers in 1971, a large number of them were full-time students.

Although the WPRs of migrant and nonmigrant females in the age group 15–29 were almost the same, the WPR was significantly higher for nonmigrant women 30–59 than for migrant women (14.9 percent compared to 11.4 percent). This finding contradicts our expectation. Two explanations for this contradiction are: (1) older women, especially among migrants, had less education, were more traditional, and considered their prime responsibility to be caring for the home, husband, and children; and (2) since job opportunities, particularly in white-collar occupations, have been limited, it is almost impossible for women past a certain age to enter the labor force. Also, a city-born woman is at an advantage in getting a job at a younger age and may continue with the same job until reaching retirement age. These factors raised the WPR of nonmigrant females in the older age group.

WPRs of migrant males in the 15–29 age group differed significantly when analyzed according to city characteristics (Table 15). For example, the WPR in metropolises was significantly higher than the rate in the smallest size class of cities. It was also higher in cities with high growth rates and in manufacturing cities. Cities that qualified for class I status before 1901 and comparatively new cities also had higher WPRs than other cities. The WPRs of both migrants and nonmigrants in cities of the middle and lower Ganga plains region were much lower than the WPRs in other regions, probably indicating fewer job opportunities there. In six cities of northern Bihar the WPRs of migrant males 15–29 were below 50 percent.

Although the WPR of migrant males 15–29 was highest in the million-plus cities, the WPR of nonmigrant males was lowest, the difference being highly significant. The reasons for this difference probably can be understood more clearly when the industrial and occupational classifications of the two worker categories are examined.

Similar differentials can be found in the WPRs of migrant and nonmigrant females in the two age groups by city characteristics. The WPR for female migrants of ages 30–59 was higher in the smallest size class cities than in those of other size classes. The WPR of female migrants was higher in cities with high growth rates and in manufacturing cities, a pattern similar to one observed for male migrants. The regional pattern of female WPRs was also similar to that of males.

The proportion of migrant workers in the city population is generally believed to be small compared with that of nonmigrant workers. The ratios of migrant workers to nonmigrant workers by sex and by two broad age groups–15–29 and 30–59–according to city characteristics (Table 16), however, indicate that migrant workers outnumbered nonmigrant workers by a ratio of 4:3. The ratio was somewhat higher for females than for males and was significantly higher in the older age group for both males and females. For male workers the metropolises had the highest ratio when considered on the basis of city size. Similarly, the ratio was higher in cities with high growth rates and cities that specialized in administrative and service functions. The ratio of migrant to nonmigrant workers was 3:1 in the comparatively new cities, indicating that migrants largely managed the economies of these cities. This ratio was more than two in the Himalayan region but less than one in the middle and lower Ganga plains and just more than one in cities of the Deccan plateau.

Industrial classification of workers

The industrial classification of workers generally reflects the economic structure of the working population and the functional specialization of the settlements. The differences in placement of nonmigrant and migrant workers, particularly when the latter are classified by migration streams, indicate the nature of pulls, or attractions, of the city economy and reflect the extent to which migrants and nonmigrants modify the overall pattern of economic activity. In the case of Bombay migrants were overrepresented in blue-collar and unskilled occupations whereas nonmigrants were overrepresented in white-collar occupations because of the difference in their educational levels (Zachariah, 1968:342). Mitra et al. concluded that migrants to the cities had little skill, education, and training, and therefore most of them were absorbed in either low-grade services or in low-grade production process activities and indigenous means of transport (Mitra et al., 1980:67).

The industrial classification of all workers, nonmigrant workers, and migrant workers by sex (Table 17)[17] indicates that at the time of

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[17] Whereas information for the total and male migrant workers in Table 17 includes a breakdown by migration stream, for females it is limited to total migrants with a breakdown only by rural-urban origin at the national level. Further classification into other migration streams is not presented for them

TABLE 16. Ratios of migrant to nonmigrant workers by city characteristic, sex, and age group: India, 1971

City characteristics	Cities (N)	Both sexes			Males			Females		
		All ages	15–29	30–59	All ages	15–29	30–59	All ages	15–29	30–59
All cities	147	1.31	1.18	1.62	1.33	1.13	1.62	1.47	1.28	1.72
City size										
1,000,000+	9	1.76	1.37	2.20	1.83	1.43	2.27	1.35	1.07	1.77
500,000–999,999	10	0.87	0.70	1.04	0.88	0.70	1.05	0.88	0.77	1.01
200,000–499,999	54	1.51	1.51	1.89	1.55	1.39	1.89	1.64	1.47	1.85
100,000–199,999	74	1.18	0.99	1.43	1.17	0.96	1.43	1.44	1.23	1.71
Growth rate										
High	68	1.82	1.76	2.24	1.87	1.66	2.25	1.90	1.71	2.13
Medium	51	0.88	0.66	1.13	0.87	0.65	1.13	1.09	0.93	1.38
Low	26	0.80	0.62	0.97	0.79	0.60	0.96	0.95	0.87	1.18
Functional specialization										
Manufacturing	68	1.38	1.27	1.63	1.40	1.27	1.66	1.56	1.26	1.72
Trade and transport	58	1.16	0.91	1.41	1.15	0.89	1.41	1.26	1.21	1.48
Service	21	1.52	1.64	2.17	1.59	1.32	2.09	1.78	1.51	2.35
Length of existence as class I city										
Before 1901	25	1.12	0.90	1.38	1.15	0.92	1.41	1.01	0.83	1.26
1901–41	24	0.93	0.67	1.29	0.93	0.66	1.29	1.07	0.87	1.45
After 1941	87	1.28	1.03	1.46	1.28	1.02	1.46	1.40	1.32	1.69
New cities	10	3.08	4.45	4.53	3.24	3.70	4.45	4.31	3.00	3.84
Regional type										
Himalayan	6	2.34	1.86	2.79	2.45	1.99	2.87	1.47	1.08	1.94
Upper Ganga plains	24	1.31	1.19	2.22	1.35	0.90	2.13	1.81	1.56	2.84
Middle and lower Ganga plains	21	0.83	0.69	0.96	0.83	0.68	0.96	0.93	0.94	1.02
Central India plateau	27	1.67	1.80	2.03	1.68	1.75	2.06	2.09	1.78	1.80
Deccan plateau	35	1.07	0.86	1.32	1.07	0.85	1.32	1.18	1.12	1.37
Coastal plains	34	1.39	1.19	1.39	1.41	1.20	1.42	1.38	1.09	1.60

the 1971 census 8.5 percent of all workers in class I cities were engaged in agriculture and allied primary activities. This proportion was significantly higher for nonmigrants than for migrants and for females compared with males. The high proportion probably was due to:

1. The expansion of many municipal boundaries before the 1971 census, bringing many peripheral villages within the municipal fold. Some people living in these villages continued to carry out agricultural activities long after the 1971 census.
2. The continued operation of animal husbandry–particularly to sell fresh milk–in a large majority of Indian cities. In some cities mining and quarrying are primary activities; in others the primary activities are fresh- and deep-water fishing.

Whereas the proportion of nonmigrant workers in the manufacturing sector was higher than that of migrant workers in manufacturing, the opposite was true with other services (Table 17). The trade and commerce industry and the transport and communications industry had similar proportions of migrant and nonmigrant workers.

In manufacturing cities that attract industrial labor from different places, one expects to find a higher proportion of migrant workers in manufacturing activity, but this was not so. Their proportion was only 32.7 percent compared with 38.7 percent of nonmigrant workers, possibly meaning that the industrial pull of these cities has not been as great as it is believed to be.

The service sector is a mixed sector that includes on one hand professional, technical, and related workers, and supervisory and clerical workers excluding those in manufacturing, trade, commerce, transport, and communications. On the other hand, the service sector includes those providing personal services–barbers, laundry workers, watchmen, domestic servants, and others. It is therefore difficult to analyze the nature of employment of migrants as compared with nonmigrants in this sector. A comparison of the occupational distributions of migrant and nonmigrant workers is expected to shed more light on their placement.

The migrants' places of origin seem to influence their sector of employment since a higher proportion of rural migrants were found engaged in primary and secondary sector activities. Consequently, a

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because their numbers in different cells at the city level were too small to provide reliable estimates of workers in different industrial categories.

TABLE 17. Percentage distributions of male and female workers by

Sex, migrant status, and migrant stream	Type of industry			
	Primary	Manufacturing	Construction	Trade and commerce
BOTH SEXES				
Total population	8.53	28.55	3.78	20.01
Nonmigrants	11.39	31.07	3.91	20.26
All migrants	6.22	24.45	3.35	19.73
Former residence				
India				
Rural	8.44	25.46	3.87	17.95
Urban	3.03	23.41	2.90	18.97
Elsewhere in same district				
Rural	11.79	23.90	3.63	17.57
Urban	4.61	23.47	3.14	18.58
In other districts of same state				
Rural	6.03	24.61	3.58	18.03
Urban	2.72	21.57	2.81	17.32
In other states				
Rural	4.12	25.87	3.35	23.90
Urban	2.56	25.89	2.65	23.50
MALES				
Total population	8.12	28.69	3.83	21.26
Nonmigrants	11.22	31.15	4.05	21.39
All migrants	5.46	24.67	3.33	21.16
Former residence				
India				
Rural	7.34	25.60	3.78	19.25
Urban	2.78	23.81	2.97	20.37
Elsewhere in same district				
Rural	10.15	24.13	3.64	18.91
Urban	3.95	23.38	3.19	19.97
In other districts of same state				
Rural	5.45	24.87	3.48	19.27
Urban	2.60	22.14	2.94	18.64
In other states				
Rural	3.82	26.26	3.28	25.27
Urban	2.38	26.58	2.68	25.07
FEMALES				
Total population	11.95	22.39	3.36	8.59
Nonmigrants	13.13	25.13	2.67	9.23
All migrants	11.71	18.99	3.55	8.12
Former residence				
India				
Rural	16.20	20.32	4.84	8.57
Urban	5.00	16.84	2.30	7.41

migrant status, migration stream, and industry: India, 1971

			Broad industrial category			
Transport and communication	Other services	Total	Primary	Secondary	Trade and transport	Service
11.69	27.42	100.00	8.53	32.34	31.71	27.42
10.74	22.57	99.94	11.39	34.98	31.00	22.57
12.56	33.70	100.01	6.22	27.80	32.29	33.70
12.19	32.04	99.95	8.44	29.33	30.15	32.04
13.60	38.09	100.00	3.03	26.31	32.58	38.09
11.46	31.64	99.99	11.79	27.54	29.03	31.64
12.72	37.49	100.01	4.61	26.61	31.30	37.49
12.98	34.77	100.00	6.03	28.19	31.01	34.77
13.94	41.63	99.99	2.72	24.38	31.26	41.63
12.18	30.58	100.00	4.12	29.22	36.08	30.58
13.39	32.02	100.01	2.56	28.54	36.89	32.02
12.57	25.52	100.00	8.12	32.53	33.83	25.52
11.53	20.61	99.95	11.22	35.19	32.92	20.61
13.59	31.79	100.00	5.46	28.00	34.75	31.79
13.21	30.77	99.95	7.34	29.38	32.46	30.77
14.70	35.36	99.99	2.78	26.79	35.07	35.36
12.63	30.54	100.00	10.15	27.77	31.53	30.54
14.01	35.50	100.00	3.95	26.57	33.98	35.50
13.99	32.94	100.00	5.45	28.35	33.26	32.94
15.22	38.47	100.01	2.60	25.08	33.86	38.47
12.75	28.62	100.00	3.82	29.54	38.02	28.62
14.22	29.07	100.00	2.38	29.26	39.29	29.07
3.96	49.76	100.00	11.95	25.74	12.55	49.76
3.65	46.15	99.96	13.13	27.80	12.88	46.15
4.04	53.59	100.00	11.71	22.54	12.16	53.59
4.16	45.90	99.99	16.20	25.16	12.73	45.90
3.88	64.57	100.00	5.00	19.13	11.29	64.57

TABLE 18. Percentage distributions of male and female migrant

City characteristics	Cities (N)	Occupational division (males)			
		0–1	2	3	4
All cities	147	9.41	4.51	16.50	14.33
City size					
1,000,000+	9	6.87	7.04	15.57	13.66
500,000–999,999	10	8.67	5.47	17.71	13.58
200,000–499,999	54	8.83	5.30	16.32	13.16
100,000–199,999	74	10.24	3.49	16.58	15.36
Growth rate					
High	68	8.72	4.05	15.92	13.54
Medium	51	9.88	5.00	17.27	15.56
Low	26	10.31	4.84	17.02	14.04
Functional specialization					
Manufacturing	68	8.58	4.84	13.79	13.21
Trade and transport	58	9.61	3.65	17.75	15.77
Service	21	11.54	5.79	21.79	13.96
Length of existence as class I city					
Before 1901	25	8.05	7.23	16.69	13.79
1901–41	24	9.25	3.87	16.19	13.98
After 1941	87	10.03	4.19	16.53	15.22
New cities	10	7.53	2.24	16.54	9.00
Regional type					
Himalayan	6	10.38	7.69	17.34	15.05
Upper Ganga plains	24	8.53	4.34	16.02	16.13
Middle and lower Ganga plains	21	11.65	3.92	19.91	13.00
Central India plateau	27	8.71	4.86	14.63	11.37
Deccan plateau	35	9.03	5.17	15.97	14.66
Coastal plains	34	9.41	3.48	16.60	15.75

NOTES: Table excludes data on cultivators and agricultural laborers. Occupational divisions are defined as follows: 0–1, professional, technical, and related workers; 2, executive, managerial, administrative, and related workers; 3, clerical and related workers; 4, sales workers; 5, service workers; 6, farmers, fishers, loggers, hunters, and related workers;

greater proportion of urban migrants was found in tertiary sector activities. The differences, although not large for males, were all statistically significant except in the manufacturing sector. The differences were more pronounced for female migrant workers. The proportion of rural migrant workers in primary and secondary sectors was consistently higher than the proportion of urban workers in all three migration streams–intradistrict, interdistrict, and interstate. Similarly, workers by city characteristic and occupational division: India, 1971

		Occupational division (females)					
5	7–9	0–1	2	3	4	5	7–9
13.00	38.88	29.85	0.60	5.96	7.24	21.44	32.98
10.80	43.06	28.07	0.91	12.26	6.45	23.26	26.72
12.01	37.41	33.61	0.89	5.84	7.81	18.62	31.49
13.00	40.34	31.74	0.68	7.47	5.57	21.81	30.87
13.41	37.51	28.18	0.47	4.11	8.48	21.34	35.48
11.76	42.65	26.42	0.63	7.56	6.60	20.40	36.47
13.82	35.36	33.71	0.52	4.87	7.28	22.91	28.91
13.97	35.71	32.92	0.74	4.22	8.68	22.66	28.48
12.44	43.58	26.66	0.70	5.44	7.31	18.82	38.96
12.89	37.21	29.67	0.43	5.54	8.26	24.12	30.15
15.14	28.28	40.71	0.78	8.78	4.20	22.53	21.41
12.32	38.03	36.01	0.78	8.23	6.73	21.02	25.03
13.76	39.45	32.65	0.76	6.17	6.30	22.97	29.09
13.30	37.44	28.08	0.50	4.94	7.91	21.28	35.48
10.44	51.84	22.47	0.70	8.57	4.80	20.19	41.42
20.25	25.83	41.66	0.63	8.70	4.71	20.84	21.83
13.51	37.06	43.68	0.73	6.68	3.78	21.72	21.54
13.96	33.43	34.87	0.79	4.54	7.01	29.67	19.71
11.27	44.71	24.20	0.93	4.78	5.74	17.87	44.46
12.36	40.68	23.84	0.36	5.04	9.51	16.75	42.60
12.82	39.37	25.60	0.39	7.72	9.14	23.94	32.18

7–9, production process workers and workers not elsewhere classified; X, workers unclassifiable by occupation. Information on divisions 6 and X has been excluded owing to very small percentages in those categories.

urban migrant workers were found in greater proportion in the other services sector in all three migration streams.

Occupational distribution of migrant workers

The occupational distribution of male and female migrant workers other than cultivators and agricultural laborers (Table 18) shows that about three-tenths of the male migrant workers were engaged in white-collar occupations (divisions 0–3)[18] in the Indian cities in 1971. The proportion of production process workers–skilled, semiskilled, and unskilled–was about two-fifths, and a little more than one-fourth were sales and service workers. Of the female migrant workers, three-tenths were engaged in prestigious white-collar occupations–professional, technical, and related work (division 0–1). Clerks comprised 6 percent whereas sales workers accounted for 7.2 percent. The proportion of service workers among females was high (21.4 percent), since many migrant women, especially illiterates or those with little education, worked as domestic servants in the cities. Production process workers accounted for one-third of the migrant female workers.

Some interesting patterns emerge regarding the occupational distribution of male and female workers when examined according to city characteristics. There was little difference by city size when male workers in divisions 0–1, 2, and 3 were combined. Although the proportion in division 0–1 was somewhat lower in million-plus cities, it was higher in division 2. Male migrant workers in million-plus cities were considerably more numerous in division 7–9 (43.1 percent) than in cities in other size classes, but they were comparatively less so in division 5. This indicates that if a person is able to secure regular employment as a production process worker, he probably will not continue any longer as a service worker. Sales workers and service workers comprised the highest proportions in small-sized cities. No clearcut pattern emerged for female migrant workers when considered by city size.

Cities with high growth rates, manufacturing cities, comparatively new cities, and cities located in the central India plateau had significantly higher proportions of production process workers than other types of cities. As pointed out earlier, a certain amount of interaction occurs among the cities since some of the new cities located in the central India plateau specialize in manufacturing activities; these cities had higher growth rates as well during 1951–71.

The proportion of workers in white-collar occupations (divisions 0–1, 2, and 3) was highest in administrative and service cities. It was also high in cities of the middle and lower Ganga plains, although there is not much of a relationship between the region's cities and functional specialization.

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[18] We have excluded division 4–sales workers–from the white-collar work category because in India a large number of hawkers, vendors, and petty traders are included in the category of sales workers; they are not white-collar workers.

Similar variations are found when occupational distribution of female migrant workers (Table 18) is analyzed according to various city characteristics.

Occupational classification of migrant and nonmigrant workers

Since data on occupational classification of all workers (similar to data on migrant workers) are not available for each city from the 1971 census tables, it has not been possible to compare the occupational placement of migrant and nonmigrant workers of all 147 cities. However, a comparison has been made on the basis of data for 20 selected cities (Appendix 2). An analysis of the occupational distribution of migrant and nonmigrant workers (other than cultivators and agricultural laborers), for both males and females (Table 19), shows that a significantly higher proportion of migrants than of nonmigrants of both sexes was engaged in professional, technical, administrative, executive, and managerial jobs. The proportion of male migrant workers in clerical and related activities was also significantly higher than for nonmigrants. A significantly higher proportion of male migrants worked in service occupations than did nonmigrants, but the opposite was true for females. The proportion of nonmigrant workers of both sexes was, however, significantly higher in production process activities.

An analysis of data for the eight metropolises shows that among male workers a significantly higher proportion of migrants than of nonmigrants worked in prestigious white-collar jobs–professional, technical, administrative, executive, managerial, and related categories (divisions 0–2). Significantly more nonmigrants worked in the sales category; they also worked in greater proportions as production process workers, but the difference between nonmigrants and migrants was not significant. From this analysis it may be concluded that migrant workers possess higher levels of education and skills and are more frequently engaged in white-collar jobs than nonmigrants.

To gain a better understanding of the differentials in the occupational placement of migrant and nonmigrant workers, we compared the occupational distribution of male migrant and nonmigrant workers in the 20 cities by controlling for educational attainment. No significant differences were observed in their proportions in division 0–1 (professional, technical, and related workers) and division 3 (clerical and

TABLE 19. Percentage distributions of male and female migrant and nonmigrant workers by occupational division: 20 selected cities of India, 1971

	All 20 cities				8 metropolises			
	Males		Females		Males		Females	
Occupational divisions	Migrant	Nonmigrant	Migrant	Nonmigrant	Migrant	Nonmigrant	Migrant	Nonmigrant
0–1 Professional, technical, and related workers	8.82	5.87	37.36	25.36	7.17	5.32	28.58	24.75
2 Administrative, executive, managerial, and related workers	6.66	2.43	0.90	0.48	7.62	2.48	0.96	0.47
3 Clerical and related workers	17.94	13.44	8.66	8.50	15.88	14.49	12.59	13.41
4 Sales workers	13.06	16.54	6.13	8.32	13.44	17.13	6.73	8.98
5 Service workers	12.23	8.67	19.75	24.06	10.54	8.32	21.45	22.29
6 Farmers, fishers, hunters, loggers, and related workers	1.11	1.63	0.90	1.19	1.01	1.50	0.91	1.34
7–9 Craftspersons, production process workers, and laborers not elsewhere classified	37.59	49.37	25.33	30.36	42.54	48.92	27.43	27.56
X Workers not classifiable by occupation	2.58	2.05	0.98	1.72	1.78	1.84	1.34	1.21

related workers) for different levels of education. Migrant workers were, however, significantly more numerous in division 2 (executive, administrative, and managerial workers) and division 5 (service workers), but significantly larger proportions of the nonmigrants were found in division 4 (sales and other related workers). Since a large majority of sales workers in India are in the unorganized sector, it seems that nonmigrants form a large share of the urban informal sector. A significantly higher proportion of nonmigrant than of migrant male workers also were found in production process work (division 7–9) for different educational levels.

Our analysis contradicts the findings of Zachariah (1968) and Mitra et al. (1980) regarding the occupational placement of migrant and nonmigrant workers in Indian cities. The present data establish that migrants go to cities because of better job opportunities there and not because they are unwanted at their places of origin. It would be useful to carry out similar analyses from 1981 census migration data, although that would require special tabulations since the present tabulation plan does not envisage migration tables comparable to the 1971 census tables.

Summarizing the findings of the survey of the literature on internal migration in less developed countries, Yap (1975:3) concluded, "Over time, in fact, there seem to be few employment-related differences between migrants and non-migrants of the same sex, age, and educational levels in metropolitan areas." When we compare the occupational placement of migrant and nonmigrant workers after controlling for sex and education, our data lead to a similar conclusion.

EXAMINATION OF THE MODEL

The analysis of the pattern of inmigration to Indian cities with populations of 100,000 and more and the analysis of migrant characteristics have brought into focus certain differentials in the quantum of migration by city characteristics. We can now look for evidence to substantiate our schematic model of migration flow (Figure 1).

We recognize that all cities receive migrants through all the migration streams—intradistrict rural, intradistrict urban, interdistrict rural, interdistrict urban, interstate rural, and interstate urban—but it is the dominance of a stream that determines a city's classification into that particular stream. For example, if mean plus one standard deviation ($\overline{X} + \sigma$) of the proportion of lifetime migrants in a particular stream is

TABLE 20. Cities with high intradistrict migration and selected

City and functional specialization		% of lifetime migrants in total population	Current inmigration rate	Sex ratio of migrants	
				Lifetime	Current
1. Salem	(M)	21.4	1.40	88	125
2. Guntur	(M)	45.2	4.16	94	87
3. Tirunelveli	(T)	36.3	3.09	88	116
4. Mangalore	(M)	33.6	3.40	101	108
5. Warangal	(M)	28.2	2.20	86	146
6. Tuticorin	(T)	36.4	2.50	90	114
7. Gaya	(T)	28.6	1.45	93	134
8. Vellore	(T)	36.2	3.15	84	138
9. Kakinada	(T)	40.0	3.64	90	104
10. Alleppey	(M)	19.4	1.35	75	82
11. Tiruppur	(M)	42.3	2.52	92	106
12. Gulbarga	(T)	32.0	2.47	113	135
13. Nagercoil	(M)	27.9	2.29	82	101
14. Nellore	(T)	41.8	3.85	96	127
15. Darbhanga	(T)	26.4	1.91	94	226
16. Dindigul	(T)	32.2	2.53	91	94
17. Kumbhakonam	(T)	39.9	2.34	78	116
18. Berhampur	(S)	38.3	4.44	90	115
19. Machilipatnam	(M)	44.2	4.92	92	129
20. Jalgaon	(T)	32.8	2.98	94	124
21. Bijapur	(T)	38.8	2.32	103	129
22. Tenali	(T)	46.8	3.92	88	113
23. Monghyr	(M)	22.7	0.58	50	129
24. Cuddalore	(T)	39.7	4.23	78	119
25. Bihar	(M)	22.0	0.56	66	138
26. Imphal	(M)	12.8	0.79	121	180
Average		33.3	2.65	89	124

M—manufacturing.
T—trade, commerce, and transport.
S—service.

taken as the cutoff point to represent the dominance of that stream, then intradistrict migration was dominant in 26 cities (Table 20). Of those 26 cities, only five had 1971 populations between 200,000 and 499,999; the rest had populations between 100,000 and 200,000.

The average proportion of lifetime migrants (33.3 percent) in the populations of those cities was significantly lower than the average

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Literacy rate		% of migrants with high school and above qualifications		% of male workers in occupational division	
Both sexes	Males	Both sexes	Males	0–3	7–9
58.8	71.9	13.2	19.8	21.2	49.4
54.2	67.1	15.2	23.4	24.4	42.7
68.3	81.7	17.8	27.3	30.2	37.5
71.0	80.2	21.0	27.2	24.6	44.5
51.1	70.1	16.2	28.0	30.5	41.2
64.1	76.7	12.5	17.8	19.6	45.9
58.1	77.4	19.9	35.5	37.7	31.4
63.8	77.1	17.7	25.2	30.0	37.3
63.6	73.3	18.2	30.1	32.0	36.4
77.1	84.0	19.3	25.4	28.8	35.2
54.7	72.9	9.6	14.1	15.2	60.9
60.0	77.1	22.7	35.6	40.7	34.2
75.2	84.8	19.2	26.4	29.3	40.2
61.3	73.5	14.2	22.2	21.3	39.2
57.6	80.1	25.2	44.2	47.3	18.0
66.7	80.6	13.4	19.0	23.2	36.4
65.2	80.3	14.1	23.0	24.4	38.7
60.0	76.8	16.6	29.4	38.0	28.5
62.1	71.3	15.8	26.7	34.4	37.9
64.4	79.3	16.3	25.9	36.8	29.2
61.3	77.3	22.2	35.4	36.4	30.1
55.6	66.1	12.4	21.6	23.0	38.8
48.9	76.0	16.1	37.3	48.1	24.2
63.7	78.7	16.0	25.1	33.9	32.2
42.0	65.1	13.5	29.6	30.8	34.7
59.7	76.6	18.6	26.2	25.4	22.3
61.1	76.0	16.8	27.0	30.3	36.4

for all 147 cities (38.4 percent). Similarly, the sex ratio of 89 among lifetime migrants was significantly lower than the average for all cities. The sex ratio of current migrants (124) was also substantially lower than the average for all the cities.

Although we observe no significant differences in the literacy rates of migrants–total or males–to the 26 cities compared with the average

TABLE 21. Cities with high interdistrict migration and selected

City and functional specialization		% of lifetime migrants in total population	Current inmigration rate	Sex ratio of migrants	
				Lifetime	Current
1. Madras	(T)	19.0	1.96	122	127
2. Hyderabad	(T)	22.8	2.34	123	160
3. Ahmedabad	(M)	44.2	1.67	125	134
4. Kanpur	(M)	37.0	1.66	138	160
5. Lucknow	(S)	33.5	2.32	125	166
6. Madurai	(M)	35.1	2.10	99	108
7. Patna	(S)	32.8	1.16	118	156
8. Tiruchirapalli	(T)	39.2	2.51	96	123
9. Dhanbad	(T)	58.7	2.69	164	196
10. Vijayawada	(T)	51.1	3.30	103	115
11. Calicut	(T)	16.8	1.67	94	140
12. Bareilly	(T)	21.2	2.36	131	208
13. Ujjain	(M)	37.4	1.50	91	135
14. Thana	(M)	68.3	6.46	138	174
15. Malegaon	(M)	34.4	1.14	106	141
16. Rampur	(M)	10.2	0.40	155	73
17. Shahjahanpur	(T)	20.7	0.17	83	233
18. Firozabad	(M)	34.9	0.73	77	128
19. Eluru	(M)	41.4	3.48	85	103
20. Devangere	(M)	40.8	2.12	111	135
21. Kanchipuram	(M)	33.2	2.35	72	119
22. Farrukhabad	(M)	30.2	1.66	71	167
23. Faizabad	(S)	31.4	0.90	101	230
24. Bhubaneshwar	(S)	67.1	7.77	143	195
25. Shimoga	(T)	49.6	5.05	118	152
26. Bhadravati	(M)	50.2	2.30	109	89
27. Bokaro	(M)	63.2	5.95	145	225
Average		37.9	2.51	114	152

M—manufacturing.
T—trade, commerce, and transport.
S—service.

for the 147 cities, the proportion of persons with high school or higher educational attainment was significantly lower. No significant differences are observed in employment patterns of male workers in the 26 cities compared with patterns in the 147 cities.

From the viewpoint of functional specialization, 14 cities have been classified as trade, commerce, and transport cities and 11 as manufac-

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Literacy rate		% of migrants with high school and above qualifications		% of male workers in occupational division	
Both sexes	Males	Both sexes	Males	0–3	7–9
70.4	81.1	24.7	33.5	30.9	40.4
65.1	75.6	28.6	39.0	49.1	27.8
62.5	72.4	19.6	26.2	18.7	56.4
57.9	67.8	21.7	29.3	26.8	47.7
65.1	73.4	30.2	39.2	38.1	30.4
65.6	81.3	16.1	23.1	23.9	43.3
65.2	78.5	29.7	44.0	47.1	22.0
71.4	80.6	19.8	28.9	25.4	40.8
46.0	54.1	14.5	19.2	16.7	66.5
60.9	70.5	15.6	24.8	25.3	44.0
72.6	80.1	22.4	27.8	33.5	34.1
65.7	75.7	28.3	39.1	40.3	26.2
59.3	74.9	18.8	28.4	32.9	46.8
66.9	74.4	19.8	23.9	23.2	55.0
44.6	59.7	5.1	8.0	10.2	64.7
64.0	75.1	26.9	34.7	29.5	36.4
51.6	70.4	18.5	31.7	28.4	42.1
42.4	52.9	9.9	15.1	11.5	66.1
58.6	67.0	13.0	21.5	26.5	43.1
57.0	70.1	17.2	26.9	19.7	51.7
58.2	77.6	12.4	21.7	28.0	42.0
49.1	68.6	16.0	28.4	34.0	28.3
55.2	76.2	21.7	36.2	44.3	21.7
72.7	82.4	28.2	40.2	53.1	20.2
63.5	71.4	21.6	29.7	28.0	36.6
53.6	65.7	14.4	21.4	15.1	63.3
47.4	63.4	16.3	23.2	17.4	61.7
59.7	71.9	19.7	28.3	28.8	42.9

turing cities. Most of those cities are district headquarters. The manufacturing and trade in almost all of them have been of local importance, basically serving their own populations and immediate regions.

In 27 cities interdistrict migration was higher than 52.4 percent ($\overline{X} + \sigma$) and thus established the dominance of this particular stream (Table 21). We call them group 2 cities in contrast to cities with high intradistrict migration, which we term group 1 cities. An examination of the proportion of migrants from rural and urban areas of other districts of the same state indicates that the two streams were almost equally strong. However, in seven cities–Ahmedabad, Kanpur, Lucknow, Dhanbad, Calicut, Firozabad, and Bokaro–the proportion of interdistrict rural migrants was more than 36.7 percent (that is, even greater than $\overline{X} + 2\sigma$ for the rural interdistrict stream). As all seven cities are of regional and national importance, we did not expect them to conform to the intradistrict migrant stream. Although five group 2 cities had very strong urban interdistrict migration streams, the other cities in group 2 also had fairly strong urban streams. We have, therefore, analyzed all 27 cities together.

The proportion of lifetime migrants (37.9 percent) in the 27 cities of group 2 (Table 21) was somewhat higher than in group 1's 26 cities. The sex ratios of lifetime and current migrants were substantially higher in group 2 cities than in group 1 cities. The literacy rates among migrants in both groups were similar, but the proportion of persons with high school and above qualifications was somewhat higher in group 2 cities. In contrast to our expectations, the proportion of male workers in white-collar jobs was lower in group 2 cities than in group 1 cities but their proportion in production process activities was much higher.

Of the 27 cities in group 2, 14 are manufacturing cities, nine are trade, commerce, and transport cities, and the remaining four are service cities. Among the service cities Lucknow, Patna, and Bhubaneshwar are state capitals of Uttar Pradesh, Bihar, and Orissa, respectively. Manufacturing cities and trade, commerce, and transport cities in group 2 have been primarily of regional and national importance. Some group 2 cities, however, are basically of local importance.

The above analysis indicates that in contrast to cities with high intradistrict migration, cities with higher interdistrict migration in 1971 had larger proportions of lifetime migrants, higher sex ratios among both lifetime and current migrants, and somewhat higher educational levels. Although the proportion of male migrant workers in white-collar occupations (divisions 0–3) was low, those cities had significantly more male migrant workers in production process activities. The majority of the cities in this category were of regional and national importance.

In 24 cities the proportion of interstate migrants to total migrants was high (Table 22). Six of those cities–Sholapur, Jhansi, Bellary, Kolar Gold Fields, Burhanpur, and Ambala Cantonment–had high interstate migration basically because of being located near state boundaries; otherwise they largely resembled the cities of group 1 and were mainly of local or regional importance. We have therefore excluded the six cities from our discussion of characteristics of cities with high interstate migration.

Among the 18 cities with a high proportion of interstate migrants, the rural component was very high in four cities–Greater Bombay, Durg-Bhilainagar, Asansol, and Rourkela. In contrast, Delhi, Chandigarh, and Pondicherry (all of which are union territories and capital cities) had very high proportions of urban interstate migrants.

All three cities with very high urban interstate migration had a much larger proportion of migrants of both sexes with high school or higher education than did other cities. The proportion of male migrant workers in white-collar jobs was highest in those cities. In contrast, the sex ratios among the migrants–lifetime and current–were not the highest but were quite moderate. Those cities, therefore, roughly conformed to the fourth category of our schematic model.

An analysis of the migration pattern to 18 cities of group 3 (Table 22) indicates that they had the largest proportion of lifetime migrants. They also had higher current inmigration rates, although the difference was not statistically significant. The sex ratios of both lifetime and current migrants to the 18 cities were higher than in cities of groups 1 and 2. Although the literacy rates of both total and male migrants to group 3 cities were of the same magnitude as those to groups 1 and 2 cities, the proportion of migrants with high school or higher education was significantly higher, especially compared with group 1 cities.

Finally, the proportion of male migrants in white-collar occupations (divisions 0–3) was somewhat lower in those cities but their proportion in blue-collar occupations (division 7–9) was significantly higher than in group 1 cities.

Ten cities in this group specialize in manufacturing, and almost all are of national or regional importance. Further, the five cities with trade, commerce, or transportation functions are of national importance in the Indian economy. Four of the five cities–Calcutta, Dhanbad, Asansol, and Kharagpur–have manufacturing functions next in importance to trade and commerce. Among the service cities, Delhi

TABLE 22. Cities with high interstate migration and selected

City and functional specialization		% of lifetime migrants in total population	Current inmigration rate	Sex ratio of migrants	
				Lifetime	Current
1. Calcutta	(T)	32.4	0.85	189	176
2. Greater Bombay	(M)	56.9	1.87	168	139
3. Delhi	(S)	51.7	3.38	132	149
4. Hyderabad	(T)	22.8	2.34	123	160
5. Bangalore	(M)	37.7	2.42	126	169
6. Indore	(M)	37.9	1.63	107	135
7. Jabalpur	(M)	40.2	3.54	126	267
8. Surat	(M)	32.3	2.12	122	162
9. Jamshedpur	(M)	47.1	2.19	131	180
10. Dhanbad	(T)	58.7	2.69	164	196
11. Gwalior	(M)	31.4	1.71	101	188
12. Bhopal	(S)	49.0	3.62	125	162
13. Durg-Bhilainagar	(M)	69.1	3.52	122	122
14. Asansol	(T)	30.5	0.49	156	130
15. Kharagpur	(T)	37.7	0.77	112	92
16. Chandigarh	(S)	79.4	8.64	136	138
17. Rourkela	(M)	71.3	5.27	143	133
18. Pondicherry	(M)	31.8	1.98	79	106
Average		45.4	2.72	131	156
Cities with high interstate migration due to location near a state boundary					
1. Sholapur	(M)	29.5	1.02	94	123
2. Jhansi	(T)	35.8	3.35	78	91
3. Bellary	(T)	28.8	2.06	107	137
4. Kolar Gold Fields	(M)	27.3	1.56	97	120
5. Burhanpur	(M)	24.6	1.41	79	148
6. Ambala Cantonment	(S)	51.2	7.53	95	112
Average		32.9	2.82	92	122
Overall average		42.3	2.75	121	147

M—manufacturing.
T—trade, commerce, and transport.
S—service.

is the national capital and Chandigarh and Pondicherry are also capital cities; Chandigarh has the unique distinction of being the capital of two states (Haryana and Punjab) and the capital of the union territory.

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Literacy rate		% of migrants with high school and above qualifications		% of male workers in occupational division	
Both sexes	Males	Both sexes	Males	0–3	7–9
58.5	62.8	21.2	25.6	20.0	47.2
66.0	72.9	17.8	20.7	22.1	49.2
64.6	73.3	29.1	35.8	32.7	36.6
65.1	75.6	28.6	39.0	49.1	27.8
67.2	76.8	29.4	38.0	29.5	41.9
61.2	72.9	20.2	27.6	31.6	45.0
65.1	76.1	28.8	39.4	26.7	40.1
59.9	68.6	15.7	20.2	15.4	62.9
62.3	74.2	22.6	32.3	19.3	58.0
46.0	54.1	14.5	19.2	16.7	66.5
60.4	77.6	24.1	35.4	33.4	37.7
65.2	76.0	29.5	39.4	36.6	37.5
59.1	71.5	20.6	26.2	22.3	59.9
61.7	69.7	22.5	29.8	17.8	56.3
70.4	83.5	25.3	40.1	33.2	49.4
71.1	76.8	38.5	45.7	45.6	26.4
63.9	74.0	20.6	28.3	21.6	52.5
63.4	78.6	16.0	24.3	29.2	42.4
62.2	73.1	23.6	31.5	27.9	46.5
51.6	68.6	13.0	20.5	22.4	52.8
63.3	75.6	22.6	34.2	34.6	36.2
59.6	72.5	19.3	30.0	32.8	37.1
60.7	73.0	16.9	24.9	18.4	59.8
52.4	69.3	11.1	18.0	24.6	45.2
57.0	65.9	17.5	22.5	28.6	40.4
57.4	70.8	16.7	25.0	26.9	45.2
61.5	72.5	21.9	29.9	27.7	46.2

From the above analysis we conclude that our schematic model generally holds well for migrant characteristics according to dominant migration stream. It would be useful, however, to replicate this analysis with data from other countries or with the 1981 census data from India. Such analysis would help in formulating migration policies for the future.

MULTIPLE CLASSIFICATION AND MULTIPLE REGRESSION ANALYSIS OF THE VOLUME OF CITYWARD MIGRATION

To study the interrelationships among the industrial structure of the male working population of class I cities in India, the inflow of migrants into the cities during 1961–71, and the relative concentration of capital investments in those cities, Mitra et al. (1980) considered (1) distribution of male workers according to industrial classification, (2) distribution of migrants according to educational level, (3) capital investment in the organized sector of industries during 1970, and (4) the sum of all workers employed in registered industrial establishments in the organized industrial sector of each city during 1970–71 (Mitra et al., 1980:4).

We think, however, that migration to cities can be explained largely by characteristics of the cities themselves, such as their size, growth rate, functional specialization, length of existence as a class I city, and regional location. Certain other variables also may influence migration flows to class I cities–e.g., public and private capital investment over time and a city's importance in the national, regional, or local economy. With great difficulty Mitra et al. obtained 1970 data on capital investment for industrial units covered by the Annual Survey of Industries (Mitra et al., 1980:vi). But in addition to investment in organized industry, we believe that the central, state, and local governments make substantial investments in the development of infrastructural facilities in various cities, and that people make substantial investments in housing and industry. The growth rates of the cities and the volume of migration are influenced by the overall investment, which is spread over several years. We wanted to include these data as explanatory variables but could not because they were unavailable. Nor could we use, as a surrogate, electric consumption or the number of telephones per 1,000 residents in each city because those data also were not available at the city level. Similarly, data necessary to classify the cities according to their importance in the national, regional, or local economy were not readily available. Hence, we limit our analysis of migration flow to the cities by utilizing five classificatory variables–

city size, growth rate, functional specialization, length of existence as a class I city, and regional location–as explanatory variables.

Multiple classification analysis

For the multiple classification analysis, we have taken as dependent variables the proportion of lifetime migration and inmigration rates, both for total, males, and females. Table 23 gives the F-ratios for each of the five explanatory variables and the total amount of variance explained by them.[19] For lifetime migrants (total, males, and females) city size and functional specialization proved not to be important explanatory variables because the F-ratios are not significant. The growth rates of the cities, length of existence in class I, and regional location, however, were important determinants of migration flow. For inmigration rates (total, males, and females) functional specialization, along with the above three variables, also was an important determinant.

The five variables together explain about two-fifths of the variance in the dependent variables, the predictability being somewhat more for lifetime male inmigrants than lifetime female inmigrants, but with current inmigration rates the opposite holds true. Other variables, if identified and taken into account, would improve the explanatory power of the model.

Multiple regression analysis

Besides considering city characteristics as explanatory variables of migration flow, we believed that the quantum of lifetime migration in each city's population and the current inmigration rates were also related to the predominant migration stream and certain migrant characteristics. With this in mind we selected a set of variables to analyze the correlations between proportion of lifetime migrants (total, male, female), and current inmigration rates on the one hand, and the following variables on the other. Expecting that some of these variables would also form an explanatory system of both the proportion of lifetime migrants and current inmigration rates, we then developed a set of regression equations.

For the correlation analysis, we first took the size of the various male and female migration streams–rural, urban, intradistrict,

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[19] For this purpose a multiple classification analysis technique has been used. The program was developed at the University of Michigan and revised somewhat at the East-West Center by Modecki (1975).

TABLE 23. F-ratios of explanatory variables used in the analysis of variance and the amounts of variance explained by the explanatory variables when adjusted for degrees of freedom

	Explanatory variables					
Dependent variables	City size	Growth rate	Functional specialization	Length of existence as class I city	Regional location	Adjusted R^2 (%)
Lifetime inmigrants in total population	1.11	15.59**	0.63	18.50**	3.00*	41.0
Lifetime male inmigrants in male population	1.53	20.41**	0.94	17.43**	3.10**	45.1
Lifetime female inmigrants in female population	1.58	9.74**	0.36	19.07**	2.74*	35.5
Inmigration rate, total	1.74	4.46*	8.16**	4.30**	9.95**	39.2
Inmigration rate, male	1.42	3.92*	8.20**	3.17*	9.01**	34.2
Inmigration rate, female	1.86	4.84**	7.08**	5.68**	9.91**	41.4

*—significant at 5 percent level.

**—significant at 1 percent level.

interdistrict, interstate, and immigrant. They resulted in 12 variables (Appendix 4:V7–V18).

The second group of variables (V19–V22) comprised the characteristics of the lifetime migrants and their proportions in the age groups 15–29 and 30–59 separately for males and females.

Next we considered female marital status as a determinant of total migration flow since a major reason for female migration is marriage migration. Hence, two variables (V23 and V24) were included that relate to percentage of unmarried and married females among lifetime female migrants.

The next 14 variables for correlation analysis (V25–V38) included the proportion literate among male and female migrants and among migrant workers, and also the proportion of migrants with at least a high school education (10 years of schooling) or graduate and above qualifications among male and female lifetime migrants and migrant workers.

As explanatory variables of migration flows, we decided on a set of variables relating to work participation rates of male and female lifetime migrants and industrial and occupational placement of migrant workers separately by sex. We also considered the broad industrial classification of total workers in each city, on the assumption that this classification determines the functional specialization of the cities. These variables are numbered V39–V54.

As expected, not all the selected variables had significant correlations with the dependent variables. Table 24 shows the zero-order correlations of the six dependent variables with those explanatory variables that did have some statistically significant value with one or more of the dependent variables.

The proportion of rural or urban migrants among total migrants of either sex did not have any correlation with lifetime migrants. Instead, the proportion of male migrants from rural areas had a negative correlation with current inmigration rates, but the proportion of male migrants from urban areas had strong positive correlations with all three inmigration rates. One may anticipate from these findings that migration to cities from other urban areas and among themselves probably will play a more important role in future population redistribution in the cities than will migration from rural areas, a hypothesis we posed earlier.

Intradistrict migration streams of both male and female migrants had negative correlations with total and male lifetime migrant streams; but interstate migration streams of both sexes had positive and significant correlations with all six dependent variables, pointing toward a long-distance pull on both rural and urban migrants. It is likely that these people, having once arrived in a particular city after incurring huge costs, do not generally move to other places.

As expected, the proportion of male and female migrants between ages 15 and 29 (V19 and V21) had significant positive correlations with almost all six dependent variables, whereas the proportion of older adults of both sexes (V20 and V22) had negative correlations with the dependent variables, implying youthfulness of the migrants.

The proportion of unmarried females among lifetime female migrants (V23) had strong positive correlations with the six dependent

TABLE 24. Explanatory variables having significant correlations with dependent variables

Explanatory variables	Dependent variables					
	% of migrants among total population			Inmigration rate		
	Both sexes	Male	Female	Both sexes	Male	Female
7. % of rural migrants among male migrants				−0.208**	−0.210**	−0.193*
8. % of urban migrants among male migrants				0.225**	0.231**	0.208**
9. % of intradistrict migrants among male migrants	−0.196*	−0.265**				
10. % of interdistrict migrants among male migrants						−0.186*
11. % of interstate migrants among male migrants	0.276**	0.328**	0.198*	0.188*	0.184*	0.186*
14. % of urban migrants among female migrants					0.163*	
15. % of intradistrict migrants among female migrants	−0.246**	−0.310**				
16. % of interdistrict migrants among female migrants				−0.160*		−0.206**
17. % of interstate migrants among female migrants	0.287**	0.323**	0.229**	0.208**	0.188*	0.230**
18. % of immigrants among female migrants		0.174*				
19. % of male migrants, ages 15–29	0.173*	0.237**		0.270**	0.336**	0.164*
20. % of male migrants, ages 30–59	−0.207**	−0.180*	−0.236**	−0.406**	−0.436**	−0.353**
21. % of female migrants, ages 15–29	0.329**	0.357**	0.281**	0.297**	0.292**	0.291**
22. % of female migrants, ages 30–59	−0.518**	−0.552**	−0.452**	−0.502**	−0.484**	−0.506**

23. % unmarried among lifetime female migrants	0.416**	0.474**	0.319**	0.490**	0.458**	0.516**
24. % married among lifetime female migrants	-0.257**	-0.293**	-0.194*	-0.343**	-0.312**	-0.377**
27. % literate among female lifetime migrants		0.166*		0.182*	0.166*	0.200*
28. % literate among female migrant workers			-0.164*			
33. % of high school and above among female migrants				0.199*	0.205*	0.183*
34. % of graduates and above among female migrants				0.201*	0.211**	0.177*
36. % of graduates and above among female migrant workers					0.160*	
37. % with high school diploma and above among male migrants, ages 15–29	-0.170*	-0.171*				
38. % with high school diploma and above among female migrants, ages 15–29				0.209**	0.214**	0.196*
39. Work participation rate of male migrants		0.201*				
41. Work participation rate of male migrants, ages 15–29	0.273**	0.309**	0.216**	0.303**	0.294**	0.291**
42. Work participation rate of female migrants, ages 15–29				0.190*	0.176*	0.203*
43. % of male migrant workers in divisions 0–2	-0.210**	-0.201*	-0.209**		0.163*	
44. % of male migrant workers in division 5	-0.406**	-0.380**	-0.423**			
45. % of male migrant workers in divisions 7–9	0.346**	0.349**	0.325**			
46. % of female migrant workers in divisions 0–2	-0.211**	-0.190*	-0.227**			
47. % of female migrant workers in division 5				-0.162*	-0.163*	
48. % of female migrant workers in divisions 7–9	0.172*		0.192*			
49. % of total workers in secondary sector				-0.206**	-0.204*	-0.197*

TABLE 24. *(continued)*

	Dependent variables					
	% of migrants among total population			Inmigration rate		
Explanatory variables	Both sexes	Male	Female	Both sexes	Male	Female
51. % of total workers in other services sector				0.335**	0.359**	0.283**
52. % of male migrant workers in secondary sector	0.315**	0.328**	0.285**			
54. % of male migrant workers in other services sector	-0.283**	-0.279**	-0.272**			

variables while the proportion of married female migrants (V24) had the opposite relationship. This finding was contrary to our assumption that a large part of female migration would be due to marriage exogamy. It seems that family migration or associational migration has played an important role in the migration process in recent years because the possibility of employment migration of single unmarried females continues to be low in India. This relationship needs further probing.

Among the variables relating to migrant literacy and educational levels, only the ones related to females have shown any significant correlations with the dependent variables; that finding, coupled with current inmigration rates, implies that educational background is not an important determinant of the proportion of lifetime migrants in the cities. The positive correlations between the proportions of female migrants with different levels of education and current inmigration rates imply greater mobility of educated females, which is likely to increase in time.

Although the work participation rates (WPRs) of total, male, and female migrants proved to be unimportant in relation to the proportion of lifetime migrants or to inmigration rates, the WPRs of young males 15–29 years old had significant positive correlations with the six dependent variables. But the WPRs of female migrants in this age group were correlated only with current inmigration rates. One may therefore say that the volume of migration of young adults to the cities has been greatly influenced by the job opportunities there.

The percentage of male migrant workers in the secondary sector (V52) had strong positive correlations with the proportion of total, male, and female lifetime migrants but no relationship to inmigration rates. In contrast, the percentage of total workers in the secondary sector (V49) had no correlations with the proportion of lifetime migrants but had negative correlations with inmigration rates. Similarly, the proportion of production process workers among male migrants (V45) had positive correlations with the proportions of total, male, and female lifetime migrants. The percentage of total workers in the other services sector (V51) had strong positive correlations with inmigration rates but no correlations with the proportion of lifetime migrants; the percentage of male migrant workers in the other services sector (V54) had strong negative correlations with the proportion of lifetime migrants and no correlations with inmigration rates. Moreover, the percentage of male migrant workers in prestigious white-collar jobs (divisions 0–2) (V43) had negative correlations with the proportion of lifetime migrants but positive correlations with inmigration rates. From these results one may conclude that, in the past, industrial employment was a strong motivating force for migration but in recent years increasing white-collar employment opportunities for both males and females have attracted young migrants with some education. These opportunities are likely to increase further with economic development.

We next proceeded to develop a set of regression equations[20] by using the explanatory variables that helped to explain the variations in the proportions of total, male, and female lifetime migrants in the cities' populations and in the inmigration rates. We used a stepwise regression model to obtain these equations; the process was limited to ten steps because we thought that inclusion of any variable beyond that point would produce only a marginal improvement in adjusted R^2 and might even reduce it in some cases because of the loss of degrees of freedom with the inclusion of each additional variable. We also decided that if any variable entered at an earlier step became redundant after the addition of a new variable, it should be dropped from the regression equation to minimize the multicolinearity effect.

Six dependent variables, three relating to the proportion of lifetime migrants in the total, male, and female populations of each city and the other three relating to total, male, and female inmigration rates, generated six regression equations (Table 25). They explained roughly 53 to 62 percent of the variance in the dependent variables. The variables most frequently appearing in the regression equations were percentage of female migrants of ages 30–59 (V22), percentage of total workers in the other services sector (V51), and percentage of male migrant workers in the other services sector (V54), all of which appeared in five of the six equations. Beta coefficients of the variable

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[20] To develop the regression equations, an additive model of the type

$$Y = a_0 + a_1 X_1 + a_2 X_2 + \ldots + a_k X_k + E$$

has been assumed to operate where a_0 is a constant, and $a_1, a_2, \ldots, a_k$ are the partial regression coefficients (or Beta coefficients) of the explanatory variables $X_1, X_2, \ldots, X_k$; E is the random variation in the dependent variable Y. In the regression equations we used only those explanatory variables that had some significant (zero-order) correlation ($r = 0.159$ or better) with at least one of the dependent variables.

TABLE 25. Regression equations between dependent and explanatory variables with the value of adjusted R^2

	Equations					
Explanatory variables	(1) beta	(2) beta	(3) beta	(4) beta	(5) beta	(6) beta
Intercept	68.348	63.748	-29.589	10.162	9.148	1.254
% of migrants, ages 30–59, among lifetime female migrants (V22)	-1.379	-1.596	-0.716	-0.084	-0.061	
% of total workers in other services sector (V51)	1.249	1.248	1.187		-0.089	0.123
% of male migrant workers in other services sector (V54)	-0.948	-1.009	-0.852		-0.053	-0.054
% of interdistrict migrants among female migrants (V16)			-0.081	-0.020	-0.058	-0.075
Work participation rate of male migrants, ages 15–29 (V41)				0.084	0.091	0.054
% of male migrant workers in division 5 (V44)	-0.468	-0.326	-0.544			
% married among lifetime female migrants (V24)	0.460	0.403	1.253			
% in age group 30–59 among lifetime male migrants (V20)				-0.145	-0.183	-0.069
% of interdistrict migrants among male migrants (V10)					0.045	0.060
% with high school diploma and above among female migrants (V33)			-0.880			-0.087
% of total workers in secondary sector (V49)				-0.095	-0.052	
% unmarried among lifetime female migrants (V23)			1.321			0.118

TABLE 25. *(continued)*

Explanatory variables	Equations (1) beta	(2) beta	(3) beta	(4) beta	(5) beta	(6) beta
% from rural areas among male migrants (V7)		0.185				
% of interstate migrants among female migrants (V17)		0.090				
% of immigrants among female migrants (V18)		0.259				
% literate among lifetime male migrants (V25)						-0.042
% with high school diploma and above among male migrants, ages 15–29 (V37)						0.023
% of male migrant workers in divisions 0–2 (V43)	-0.173					
% of male migrant workers in secondary sector (V52)				0.029		
% of variance explained (adjusted R^2)	56.6	61.5	52.9	58.2	62.3	59.7

percentage of female migrants 30–59 years old (V22) were negative in all the equations, indicating that cities have little attraction for older female migrants. Their proportion was high only in those cities that had a low proportion of migrants in their populations and low inmigration rates. Those cities probably have weak economic bases.

Although the percentage of total workers in the other services sector (V51) had positive Beta coefficients with explained variables, the proportion of male migrant workers in other services (V54) had negative Beta coefficients. It seems that an increase in total employment in other services leads to greater migration, but it is not male migrants who necessarily get those jobs.

The percentage of male migrant workers in services (V44)–occupational division 5–had negative Beta coefficients in the three equations relating to lifetime migrants. This finding reinforced the result of variable V54 and indicated also that employment of migrant males in low-grade services was high only in those cities where lifetime migration was low and was low where lifetime migration was high.

Beta coefficients of the percentage of married females among lifetime female migrants (V24) were positive in the first three regression equations relating to lifetime migrants. We showed earlier that this variable had strong negative zero-order correlations with all six explained variables. The present result means that when the influence of certain intervening variables is controlled, the direction and magnitude of influence of a particular variable can change. The present result means also that more migration of married females to cities should result in a greater proportion of female and total lifetime migration. Since some migration of married females is associational (moving with the principal breadwinner), a higher proportion of female migration also means more male lifetime migration.

Work participation rates of male migrants 15–29 years old (V41) had positive Beta coefficients with all three inmigration rates; that is, cities that provided greater employment opportunities to young male migrants also attracted a higher proportion of migrants during 1970–71. The negative Beta coefficients of percentage of male migrants 30–59 (V20) with inmigration rates were in order, as the latter variables generally reflect the migration of young adults.

Several other variables appeared in the six equations only once or twice. Their contribution in explaining the variance in the dependent variables was different in different equations.

SUMMARY

Our analysis has concentrated on the patterns of lifetime migration to Indian cities with populations of 100,000 and more when classified according to city size, growth rate, functional specialization, length of existence as a class I city, and regional location. It indicates that city size is not an important determinant of the proportion of migrants in their populations. As more cities obtain class I status, they are likely to have higher proportions of inmigrants in their populations. In contrast, the proportion of inmigrants in the populations of older cities is likely to become smaller in the future because a major part of their growth is likely to result from natural increase and from expansion of municipal boundaries.

Some newer cities of the central India plateau had very fast growth rates during 1951–71 because of heavy inmigration. In contrast, cities of the middle and lower Ganga plains had very low growth rates and low inmigration rates.

Our data indicate that inmigration to cities in the urban-to-urban stream is soon likely to become more dominant, especially in the administrative and service cities, where available job opportunities require people with higher education.

An analysis of sex ratios in migrant and nonmigrant populations shows that those were higher among nonmigrants than among migrants. In fact, the sex ratios of nonmigrants increased with age up to about age 40, indicating marriage migration of females from the cities. In contrast, ratios decreased among migrants of ages 20 and above because of inmigration by females in marriage and associational migration with the family breadwinner.

The sex ratio of 138 among lifetime migrants to metropolitan cities was very favorable to males, indicating male-selective inmigration; but the ratio was below 100 in cities in the lowest size class and was 100 in cities of the coastal plains.

The sex ratio among the current migrants was much higher than that of nonmigrants, indicating that initially migration is male selective. This selectivity probably occurs because many males are unmarried at the time of migration but marry later when they feel established. It is also possible that in an effort to secure better jobs, males move alone from one city to another, then are joined later by family members.

A lower sex ratio among urban inmigrants than among rural inmigrants suggests a greater proportion of family migration among the former and higher city-to-city migration of females through marriage.

More than half of the nonmigrant populations in the cities were children below the age of 15, whereas the proportion of children among lifetime migrants was less than one-fifth. Further, the proportion of children was higher among urban lifetime migrants than among rural lifetime migrants.

Our data indicate that migrants had a higher literacy rate than nonmigrants, probably because of age-structure variations in the two subpopulations. The proportion of literates and of those with at least a high school education (ten years of schooling) was significantly lower among intradistrict inmigrants than among interdistrict or interstate inmigrants. This finding implies that illiterate migrants generally travel short distances because (1) they are poor and cannot afford to go to distant places, (2) they do not receive proper information about job opportunities in distant places, and (3) they believe that, as unskilled workers, they are not likely to earn higher wages in a distant city than what they might earn in a nearby town or city.

A comparison of the educational attainment of migrant and nonmigrant workers in the 20 selected cities shows that proportionately more migrant workers possessed higher educational qualifications (high school and above) than did nonmigrant workers.

The work participation rate of male migrants to the cities, especially in the 15–29 age group, was significantly higher than that of nonmigrants. Migrant workers exceeded nonmigrant workers in absolute number by four to three; the excess in the age group 30–59 being in the ratio of eight to five. Hence, the function specialization of many cities has depended largely on the nature of activities pursued by the migrants. This was especially so in cities with high growth rates, those with administration or service as their functional specialization, those situated in the Himalayan region, or those that were new. Moreover, a larger proportion of migrant workers than of nonmigrants was engaged in the tertiary sector.

As for the occupational placement of migrant and nonmigrant workers, we observed that in the 20 selected cities proportionately more migrants than nonmigrants were employed in white-collar jobs. Conversely, nonmigrants were employed in greater proportion in production process occupations (divisions 7–9) and in sales and related occupations (division 4). As a large majority of sales workers in India are in the unorganized sector, it seems to us that nonmigrants form a greater share of the urban informal sector than do migrants. Therefore, we conclude that migrant workers to Indian cities possess higher levels of education and skills and are more frequently engaged in white-collar jobs than are nonmigrants.

We identified 26 cities with high intradistrict migration rates. Most of these cities are located in Tamil Nadu, Andhra Pradesh, and Bihar. The proportion of lifetime migrants (33.3 percent) in the 26 cities was significantly lower than the average for all 147 cities. Similarly, the sex ratio of 89 among lifetime migrants was significantly lower than the average for all cities. Although we observed no significant difference between the average literacy rate for the 26 cities and the average rate for all cities, the proportion of persons with high school or higher education was significantly lower. Most of the 26 cities were of local importance in the Indian economy, serving their own populations and immediate hinterlands.

In contrast, 24 cities had high proportions of interstate migrants in their populations. They were generally large cities (five of them were metropolises), and they had much larger proportions of inmigrants in their populations than did other cities. The sex ratio of lifetime migrants was well above the average for all cities. The proportion of migrants with high school and higher education was significantly greater in those cities than in others that had high intradistrict migration. Most of the cities in this category are of regional and national importance in the Indian economy. Among them Delhi is the national capital and seven others–Bombay, Calcutta, Hyderabad, Bangalore, Bhopal, Chandigarh, and Pondicherry–are state or union territory capitals.

We thought that migration to cities could be explained largely by characteristics of the cities themselves, such as their size, growth rate, functional specialization, length of existence as a class I city, and regional location. Certain other variables that may also influence migration flows to class I cities–e.g., public and private capital investment over time, and a city's importance in the national, regional, or local economy–could not be included as explanatory variables since relevant data were not available. The multiple classification analysis showed that such city characteristics as growth rate, length of existence as a class I city, location within the country, and, to some extent, functional specialization, are important determinants of the proportion of lifetime migrants in cities' populations and of current inmigration rates. In fact, these variables, along with city size categories, explain about two-fifths of the variation in the explained variables.

We also employed stepwise regression analysis using as explanatory variables the pattern of migration to each city (reflected by the proportion of migrants in various migration streams) and certain migration characteristics to explain the variation in the proportion of lifetime migrants in each city's population and the inmigration rate (total, males, and females). The analysis has shown that of 48 variables only 19 are more significant, eight of them appearing most frequently in the regression equations. The variables entering in the regression equations explained about three-fifths of the variance of the dependent variables. If the variables relating to city characteristics, migration patterns, and migrant characteristics were used together to explain the migration flow to class I cities, we would expect the explanatory power of the model to improve greatly.

We also believe that if similar exercises were performed with data from the 1981 Indian census or with migration data from other developing countries, they would shed further light on the role of primate, metropolitan, and intermediate cities in population redistribution through migration.

INDIAN URBAN DEVELOPMENT POLICIES AND MIGRATION

Soon after Independence in 1947, the Government of India launched a program of economic and social development through the five-year plans. The First Five-Year Plan (1951–56) stressed the development of agriculture and the exploitation of minerals and other resources. The concepts of community development and national extension service were introduced to take developmental strategies to the rural areas. New industrial complexes such as Bhilai, Chittaranjan, Durgapur, and Rourkela were developed during the 1950s in the mineral-rich Chhota Nagpur plateau and other regions to promote the growth of metal, engineering, and allied industries. New state capitals–Bhubaneshwar, Chandigarh, and Gandhinagar–were built during the same period.

During the Second Five-Year Plan, a central scheme was initiated to provide financial assistance to state governments and local bodies, enabling them to clear some of the worst slums in big cities. By the end of the plan, 208 projects in various towns and cities were initiated, costing about Rs 190 million and resulting in the relocation of about 58,200 families who had been living in slums (Planning Commission, 1961:687).

As an urban planning objective, the Third Five-Year Plan stressed balanced development among large, medium-sized, and small industries and between rural and urban areas. To achieve this, the plan suggested that (1) as much as possible, new industries should be established away from large, congested cities, (2) the planning of new industries should extend beyond the immediate environs to develop a larger area, with the new industry as the major focal point, and (3) in community development project areas, the rural and urban components of development should be integrated to strengthen economic interdependence between towns and surrounding rural areas (Planning Commission, 1961:689). Concerning urban development costs, the plan emphasized the need for appropriate action (1) to control urban land values through public acquisition of land and appropriate fiscal policies, (2) to plan physical uses of land and prepare master plans, (3) to define tolerable minimum standards for housing and other services and prescribe maximum standards to the extent necessary, and (4) to strengthen municipal administrations for initiating new development responsibilities (Planning Commission, 1961:690). Further, as part of the urban development policy, the plan provided an outlay of Rs 290 million for slum clearance and improvement programs.

The Planning Commission decided that during the Fourth Five-Year Plan it might be desirable not only to prevent further population growth in cities like Calcutta and Bombay, but also to initiate population dispersal aimed toward stabilizing population levels in other cities and planning suitable new regional centers for the likely excess. The plan's authors also suggested exploring fully the potential of developing existing small towns (Planning Commission, 1970:398).

Examining past urbanization patterns, possible future trends, and earlier urban development policies that were essentially peripheral, the Town and Country Planning Organisation in 1975 recognized the need for a policy to foster urbanization and to dovetail it into the national strategy for economic and social development. The group formulated the following national urbanization policy objectives:

1. Evolving a spatial pattern of economic development based on the regional planning and location of a hierarchy of human settlements that would permit the exploitation of natural resources in the region, and ensuring functional linkages among the settlements;
2. Securing for both the immediate future and the long term the optimum distribution of population between each region's rural and urban settlements and among various-size towns;
3. Securing the distribution of economic activities in small and medium-size towns and in new growth centers to induce the desired population distribution and achieve maximum economic growth for the future;
4. Controlling and, where necessary, arresting the further growth of metropolitan cities by dispersing regional economic countermagnets to reduce social and economic costs and to improve living levels;
5. Providing minimal levels of services for improving the quality of life in rural and urban areas and gradually reducing the differences between the rural and urban life (Town and Country Planning Organisation, 1975:38f-n).

Pursuing the urban development policies of the Third and Fourth Five-Year Plans, certain state governments took steps to disperse industries in their states. For example, in 1974 Bihar enacted the Industrial Area Development Act and set up Industrial Area Development Authorities for Patna, Muzaffarpur, and Ranchi. It also contemplated promoting ancillary industries around Jamshedpur, Ranchi, Bokaro, Sindri, Dalmianagar, and Barauni. To provide incentive packages to small, medium, and large industries, the Punjab government has concentrated on establishing industrial foci at Bhatinda, Dadri Kalan (near Ludhiana), Hoshiarpur, Jullundur, Khanna, Malerkotla, Mohali, and Rajpura. Most of these are small and medium towns and cities. Gujarat, Karnataka, Maharashtra, and West Bengal also encourage industrial development in areas other than the metropolitan centers. For example, in Karnataka, 75 percent of the applications for industrial licensing in 1973–74 and 80 percent in 1974–75 were approved for locations in areas other than Bangalore and mostly in the backward districts. Maharashtra has selected urban settlements like Ahmadnagar, Aurangabad, Nagpur, Nanded, Nasik, and Tarapur (which are mostly intermediate cities) to encourage industrial development outside the Bombay-Pune region. Since the introduction of a central subsidy in 1971, many other states have begun programs of industrial development in backward areas (Ministry of Works and Housing, 1977:37).

Even with these developments, the balance between urban and regional development has not improved very much. While formulating the Sixth Five-Year Plan, the Planning Commission decided that although urban development required serious attention, programs of agricultural and rural development should receive greater emphasis in a country still largely rural and agricultural in character. Urban development should complement rural development and policies should strengthen links between towns, cities, and the regions beyond (Planning Commission, 1981:389). National urbanization policy should involve specific consideration of regional problems, and each region's urban development should be viewed in relation to rural development (Planning Commission, 1981:395).

Considering the limited resources for urban development, the Commission thought that the urbanization policy during the 1980s should foster the provision of adequate infrastructural and other facilities in the small, medium, and intermediate towns that had been neglected in the past. The aim should be to strengthen those market centers by equipping them with proper housing, water supplies, means of communication, and educational, medical, and recreational facilities so that they could serve as growth and service centers for the rural regions (Planning Commission, 1981:395). The Commission reemphasized the need for positive inducements to establish new industries and other commercial and professional establishments in small, medium, and intermediate cities, taking advantage of the particular special conditions available in each place (Planning Commission, 1981:396).

Noting the slum problem in large cities, the Sixth Plan made substantially larger provisions for the environmental improvement of the slums (Planning Commission, 1981:396).

Noting India's new pace of urbanization and the growth in the secondary and tertiary sectors of the economy as revealed by the 1981 population census, the Planning Commission at a meeting in June 1982 discussed a background paper, "Strategy of Housing and Urban Development: Some New Perspectives," with academics and administrators. Participants at this meeting recommended the appointment of several task forces to formulate a long-term perspective on housing and urban development issues; the perspective could become the basis of the housing and urban development strategy of the Seventh Five-Year Plan (Planning Commission, 1983:v).

The Task Force on Planning for Urban Development considered the likely growth of urban population during the 1980s and 1990s, the increase in the number of metropolitan cities and other class I cities, and the growth of the urban labor force, then recommended that planning for urban development support economic development in the country, state, or subregion, be it in agricultural, extractive or manufacturing industries, or in the tertiary sector. A key objective of urban development planning was that investments in urban services and shelter should coincide with investments in agriculture, industry, mining, and commerce, which provide permanent sources of employment, so that both types of investment would become fully productive (Planning Commission, 1983:xxvi). The task force recommended further that urban development planning be based on regions or subregions rather than the nation and that the regional urban systems be identified according to their economic, climatic, geographical, and transportation characteristics. Within each planning zone, allocations to towns should not be based on population size but rather be related to function and need, with particular emphasis on the towns' industrial and employment potential (Planning Commission, 1983:xxvii).

It is clear from the above description that the central government's urban development strategy has been to disperse industrial, commercial, and other tertiary activities to small and medium towns and intermediate cities that could act as growth centers for a region's rural and urban populations. Some of the state governments already have adopted policies with this strategy and other states are expected to pursue similar policies in the future. We may therefore expect greater development of intermediate cities during the 1980s and the 1990s, and during the next two decades those cities may receive a larger share of migrants than the metropolises or other large cities.

Our analysis of migration patterns to Indian cities relates to the period when the central and state governments pursued basically *laissez-faire* policies of urban development. Even in planned industrial complexes where housing was provided for factory workers, little planning was done to house those engaged in retail trade, commerce, or service activities. The result was haphazard growth of the cities outside the planned areas.

According to our analysis, lifetime migration was highest in cities with 200,000 to 500,000 inhabitants. Service cities attracted more migrants than manufacturing, trade, commerce, or transport cities. Similarly, comparatively new cities attracted more migrants. The proportion of migrants was highest in cities of the central India plateau but lowest in cities of the middle and lower Ganga plains.

We identified 26 cities that had very high proportions of intradistrict migrants in their populations; all except five were in the size category of 100,000–200,000 and were located mostly in Tamil Nadu, Andhra Pradesh, and Bihar. They had very low proportions of lifetime migrants in their populations. Those cities were largely of local importance in the national economy. In contrast, 24 cities had high proportions of interstate migrants in their populations; they were generally big cities (five of them were metropolises) and had much higher proportions of lifetime migrants. Most of the cities in this category were of regional, national, and even international importance.

The proportion of inmigrants in the metropolises and larger cities might remain constant or even fall in the future because a major part of their growth is likely to result from natural increases and the expansion of municipal boundaries. Further, the urban-to-urban migration stream is likely to become more dominant than the rural-to-urban stream among migrants to class I cities. Migrants will be attracted to cities with higher employment potential and toward tertiary-sector jobs.

As the Indian government has not developed any migration-responsive policy instruments, it is difficult to predict the major directions of future migration flows—whether they will move toward the metropolises or toward the intermediate cities. The pattern of urban growth during the 1971–81 decade indicates that metropolises with populations of 1 to 4 million, intermediate cities with populations below 500,000, and even small and medium towns all had higher growth rates than the big metropolises or cities with one-half million to 1 million populations (Rakesh Mohan and Pant, 1982:1536–37). Considering the government's emphasis on developing small, medium, and intermediate cities as part of the urban development policy in the Sixth Five-Year Plan and probably in the Seventh Plan, and considering the pattern of urban growth during the 1971–81 decade, we expect intermediate cities and medium towns to attract more migrants in the future. In fact, many cities of the middle and lower Ganga plains and the coastal plains—cities that stagnated in the past—already have certain infrastructural facilities. If programs are begun to create new job opportunities and to raise the level of their infrastructures, those cities will act as important growth centers in their respective regions and will lead toward balanced regional development.

Although industrial cities with expanding industries will continue to attract new migrants, young educated males and females may have a greater tendency to seek white-collar employment in new destinations. It would be useful to increase information channels about job opportunities in specific areas. Otherwise young adult males may continue to shop around in different locations for suitable jobs until they are able to settle down.

APPENDIXES

APPENDIX 1. Formats of three migration tables from the 1971 Indian census of population

A. Migrants to cities classified by sex, broad age group, education, and occupational division of workers

							Educational levels							
	Total migrants		Illiterate		Literate without educational level[b]		Primary		Middle[c]		Matriculation or higher secondary		Nontechnical diploma not equal to degree	
Last residence and age group[a]	M	F	M	F	M	F	M	F	M	F	M	F	M	F
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Total														
A. Resided in India														
I. Within the state of enumeration but outside the place of enumeration														
(a) Elsewhere in district of enumeration														
(b) In other districts of state of enumeration														
II. States in India beyond the state of enumeration														
Workers by occupational division/nonworkers														
State 1														
State 2														
Etc.														
B. Countries in Asia beyond India (including USSR)														
C. Countries in Europe (excluding USSR)														
D. Countries in Africa														
E. Countries in two Americas														
F. Countries in Oceania														
G. Unclassifiable														

Table A. *(continued)*

Technical diploma or certificate not equal to degree		Graduate degree other than technical degree		Technical degree or diploma equal to degree or postgraduate degree											
				Postgraduate degree other than technical degree		Engineering and technology		Medicine		Agriculture, veterinary, and dairy		Teaching		Others	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

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a. Age groups are total, 15–29, 30–59.

b. Includes figures for nonclassifiable educational levels.

c. This level does not exist in some states; its omission from a table will be explained in a footnote.

B. Workers and nonworkers according to main activity classified by place of last residence

Last residence	Rural/urban unclassifiable	Total population			Total workers		Workers							
							I Cultivators		II Agricultural laborers		III Livestock, forestry, fishing, and hunting, and plantation, orchards, and allied activities		IV Mining and quarrying	
		P	M	F	M	F	M	F	M	F	M	F	M	F
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Total population														
A. Resided in India														
Rural														
Urban														
Unclassifiable														
I. Within the state of enumeration but outside the place of enumeration														
Rural														
Urban														
Unclassifiable														
(a) Elsewhere in the district of enumeration														
Rural														
Urban														
Unclassifiable														
(b) In other districts of state of enumeration														
Rural														
Urban														
Unclassifiable														
II. States in India beyond the state of enumeration														
Rural														
Urban														
Unclassifiable														

	Workers *(continued)*													
	V Manufacturing processing, servicing and repairs				VI		VII		VIII		IX		X	
	(a) Household industry		(b) Other than household industry		Construction		Trade and commerce		Transport, storage, and communications		Other services		Nonworkers	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
	16	17	18	19	20	21	22	23	24	25	26	27	28	29
State 1														
Rural														
Urban														
Unclassifiable														
State 2														
Rural														
Urban														
Unclassifiable														
Etc.														
B. Countries in Asia beyond India (including USSR)														
Afghanistan														
Burma														
Ceylon														
China														
Nepal														
Pakistan														
Malaysia														
USSR														
Elsewhere														
C. Countries in Europe (excluding USSR)														
UK (including Northern Ireland)														
Ireland														
Elsewhere														
D. Countries in Africa														
Kenya														
Mauritius														
Mozambique														
Union of South Africa														
Elsewhere														
E. Countries in two Americas														
Canada														
USA														
Elsewhere														
F. Countries in Oceania														
Australia														
New Zealand														
Elsewhere														
G. Unclassifiable														

P—all persons; M—males; F—females.

C. Migrants classified by place of last residence, age group, duration of residence, and marital status (state, district, city)

Last residence	Rural/ urban	Age group	Sex	Duration of residence and marital status															
				All duration				Less than 1 year				1–9 years				10 years and above			
				Total	NM	M	W&D	Total	NM	M	W&D	Total	NM	M	W&D	Total	NM	M	W&D
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
		Total																	
		0–14																	
		15–19																	
		20–24																	
		25–49																	
		50+																	
		Age not stated																	

NM—never married.

M—married.

W&D—widowed, divorced, and separated persons.

1. Details of column 1 are:
   Total
   A. Resided in India
      I. Within the state of enumeration but outside place of enumeration
         (a) Elsewhere in district of enumeration
         (b) In other districts of state of enumeration
      II. States in India beyond the state of enumeration
   B. Outside India
2. Figures of unspecified marital status are included in total.
3. Figures of unclassifiable last place of residence are included in total.

APPENDIX 2. Cities for which selected characteristics of migrants and nonmigrants have been compared, by 1971 population

Number	Name	1971 population
1	Greater Bombay	5,970,575
2	Delhi	3,647,023
3	Madras	3,169,930
4	Hyderabad	1,796,339
5	Ahmedabad	1,741,522
6	Bangalore	1,653,779
7	Kanpur	1,275,242
8	Poona	1,135,034
9	Nagpur	930,459
10	Lucknow	813,982
11	Jaipur	636,768
12	Agra	634,622
13	Indore	560,936
14	Allahabad	513,036
15	Gwalior	406,140
16	Jodhpur	317,612
17	Gorakhpur	230,911
18	Rampur	161,417
19	Agartata	100,264
20	Pondicherry	153,325

APPENDIX 3. List of cities with classification into categories of the

Serial number and name of city	City size				Growth rate		
	1,000,000+	500,000–999,999	200,000–499,999	100,000–199,999	High	Medium	Low
1	2	3	4	5	6	7	8
1 Calcutta	*					*	
2 Greater Bombay	*				*		
3 Delhi	*				*		
4 Madras	*				*		
5 Hyderabad	*					*	
6 Ahmedabad	*				*		
7 Bangalore	*				*		
8 Kanpur	*					*	
9 Poona	*				*		
10 Nagpur		*			*		
11 Lucknow		*				*	
12 Coimbatore		*			*		
13 Madurai		*			*		
14 Jaipur		*			*		
15 Agra		*				*	
16 Varanasi		*				*	
17 Indore		*				*	
18 Jabalpur		*			*		
19 Allahabad		*				*	
20 Surat			*		*		
21 Patna			*			*	
22 Vadodara			*		*		
23 Tiruchirapalli			*			*	
24 Amritsar			*				*
25 Jamshedpur			*		*		
26 Cochin			*		*		
27 Dhanbad			*		*		
28 Srinagar			*			*	
29 Salem			*		*		
30 Trivandrum			*		*		
31 Gwalior			*			*	

five predictor variables

Functional specialization			Length of existence as class I city				Regional type					
Manufacturing	Trade, commerce, transport	Service	Before 1901	1901–41	After 1941	New cities[a]	Himalayan	Upper Ganga plains	Middle and lower Ganga plains	Central India plateau	Deccan plateau	Coastal plains
9	10	11	12	13	14	15	16	17	18	19	20	21
	*		*						*			
*			*									*
		*	*					*				
	*		*									*
	*		*								*	
*			*							*		
*			*								*	
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APPENDIX 3. *(continued)*

	City size				Growth rate		
Serial number and name of city	1,000,000+	500,000–999,999	200,000–499,999	100,000–199,999	High	Medium	Low
1	2	3	4	5	6	7	8
32 Ludhiana			•		•		
33 Sholapur			•				•
34 Ulhasnagar			•		•		
35 Bhopal			•		•		
36 Hubli-Dharwar			•		•		
37 Meerut			•			•	
38 Visakhapatnam			•		•		
39 Mysore			•				•
40 Vijayawada			•		•		
41 Calicut			•		•		
42 Bareilly			•			•	
43 Jodhpur			•			•	
44 Rajkot			•		•		
45 Jullundur			•			•	
46 Moradabad			•			•	
47 Nasik			•			•	
48 Guntur			•		•		
49 Kolhapur			•		•		
50 Tirunelveli			•			•	
51 Ajmer			•				•
52 Ranchi			•		•		
53 Aligarh			•			•	
54 Durg-Bhilainagar			•		•		
55 Asansol			•		•		
56 Gorakhpur			•			•	
57 Jamnagar			•		•		
58 Bhavnagar			•			•	
59 Saharanpur			•			•	
60 Mangalore			•			•	
61 Belgaum			•			•	
62 Kota			•		•		
63 Bikaner			•			•	
64 Ujjain			•			•	

Functional specialization			Length of existence as class I city				Regional type					
Manufacturing	Trade, commerce, transport	Service	Before 1901	1901–41	After 1941	New cities[a]	Himalayan	Upper Ganga plains	Middle and lower Ganga plains	Central India plateau	Deccan plateau	Coastal plains
9	10	11	12	13	14	15	16	17	18	19	20	21
•				•				•				
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APPENDIX 3. *(continued)*

Serial number and name of city	City size				Growth rate		
	1,000,000+	500,000–999,999	200,000–499,999	100,000–199,999	High	Medium	Low
1	2	3	4	5	6	7	8
65 Warangal			*			*	
66 Thana			*		*		
67 Raipur			*		*		
68 Cuttack			*		*		
69 Dehradun			*				*
70 Sangli			*		*		
71 Gauhati			*		*		
72 Jhansi				*		*	
73 Amravati				*	*		
74 Malegaon				*	*		
75 Rajahmundry				*		*	
76 Tuticorin				*		*	
77 Gaya				*			*
78 Vellore				*		*	
79 Bhagalpur				*			*
80 Erode				*	*		
81 Akola				*	*		
82 Aurangabad				*	*		
83 Jammu				*	*		
84 Kakinada				*		*	
85 Rampur				*			*
86 Udaipur				*		*	
87 Kharagpur				*			*
88 Alleppey				*			*
89 Sagar				*	*		
90 Tiruppur				*	*		
91 Patiala				*		*	
92 Ahmadnagar				*			*
93 Gulbarga				*	*		
94 Shahjahanpur				*			*
95 Burdwan				*	*		
96 Nagercoil				*		*	

Functional specialization			Length of existence as class I city				Regional type					
Manufacturing	Trade, commerce, transport	Service	Before 1901	1901–41	After 1941	New cities[a]	Himalayan	Upper Ganga plains	Middle and lower Ganga plains	Central India plateau	Deccan plateau	Coastal plains
9	10	11	12	13	14	15	16	17	18	19	20	21
*					*						*	
*					*							*
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APPENDIX 3. *(continued)*

Serial number and name of city	City size				Growth rate		
	1,000,000+	500,000–999,999	200,000–499,999	100,000–139,999	High	Medium	Low
1	2	3	4	5	6	7	8
97 Thanjavur				*			*
98 Mathura				*			*
99 Dhulia				*		*	
100 Kurnool				*	*		
101 Firozabad				*	*		
102 Nellore				*		*	
103 Darbhanga				*		*	
104 Bilaspur				*	*		
105 Dindigul				*		*	
106 Ghaziabad				*	*		
107 Eluru				*			*
108 Nanded				*	*		
109 Muzaffarpur				*		*	
110 Bellary				*		*	
111 Rohtak				*		*	
112 Quilon				*	*		
113 Shillong				*	*		
114 Davangere				*	*		
115 Kanchipuram				*			*
116 Kumbhakonam				*			*
117 Ratlam				*	*		
118 Kolar Gold Fields				*			*
119 Berhampur				*	*		
120 Nizamabad				*	*		
121 Muzaffarnagar				*		*	
122 Machilipatnam				*			*
123 Farrukhabad				*			*
124 Faizabad				*			*
125 Nadiad				*		*	
126 Porbandar				*		*	
127 Jalgaon				*		*	
128 Mirzapur				*			*
129 Bhubaneshwar				*	*		

Functional specialization			Length of existence as class I city				Regional type					
Manufacturing	Trade, commerce, transport	Service	Before 1901	1901–41	After 1941	New cities[a]	Himalayan	Upper Ganga plains	Middle and lower Ganga plains	Central India plateau	Deccan plateau	Coastal plains
9	10	11	12	13	14	15	16	17	18	19	20	21
	•				•							•
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APPENDIX 3. *(continued)*

Serial number and name of city	City size				Growth rate		
	1,000,000+	500,000–999,999	200,000–499,999	100,000–199,999	High	Medium	Low
1	2	3	4	5	6	7	8
130 Burhanpur				*			*
131 Sambalpur				*	*		
132 Bhusawal				*	*		
133 Bijapur				*		*	
134 Tenali				*		*	
135 Shimoga				*	*		
136 Ambala Cantonment				*			*
137 Monghyr				*			*
138 Bhadravati				*	*		
139 Cuddalore				*			*
140 Alwar				*		*	
141 Agartala				*	*		
142 Bihar				*		*	
A1 Chandigarh			*		*		
A2 Durgapur			*		*		
A3 Rourkela				*	*		
A4 Pondicherry				*	*		
A5 Bokaro				*			
A6 Imphal				*			

---

a. New cities are defined as those cities that came into existence after 1901 and attained

Functional specialization			Length of existence as class I city				Regional type					
Manufacturing	Trade, commerce, transport	Service	Before 1901	1901–41	After 1941	New cities[a]	Himalayan	Upper Ganga plains	Middle and lower Ganga plains	Central India plateau	Deccan plateau	Coastal plains
9	10	11	12	13	14	15	16	17	18	19	20	21
*					*					*		
	*				*					*		
	*				*						*	
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*												*
*						*				*		
*					*		*					

class I status any time between 1901 and 1971.

APPENDIX 4. Dependent and independent variables used in the regression analysis of cityward migration

A. *Dependent variables*

V1	Percentage of lifetime migrants in the total population of each city
V2	Percentage of male lifetime migrants in the male population
V3	Percentage of female lifetime migrants in the female population
V4	Inmigration rate, total
V5	Inmigration rate, male
V6	Inmigration rate, female

B. *Independent variables*

V7	Percentage of migrants from rural areas among male migrants
V8	Percentage of migrants from urban areas among male migrants
V9	Percentage of intradistrict migrants among male migrants
V10	Percentage of interdistrict migrants among male migrants
V11	Percentage of interstate migrants among male migrants
V12	Percentage of immigrants among male migrants
V13	Percentage of migrants from rural areas among female migrants
V14	Percentage of migrants from urban areas among female migrants
V15	Percentage of intradistrict migrants among female migrants
V16	Percentage of interdistrict migrants among female migrants
V17	Percentage of interstate migrants among female migrants
V18	Percentage of immigrants among female migrants
V19	Percentage of migrants, ages 15–29, among lifetime male migrants
V20	Percentage of migrants, ages 30–59, among lifetime male migrants
V21	Percentage of migrants, ages 15–29, among lifetime female migrants
V22	Percentage of migrants, ages 30–59, among lifetime female migrants
V23	Percentage of unmarried females among lifetime female migrants
V24	Percentage of married females among lifetime female migrants
V25	Percentage of literates among lifetime male migrants
V26	Percentage of literates among male migrant workers
V27	Percentage of literates among lifetime female migrants
V28	Percentage of literates among female migrant workers
V29	Percentage of high school and above among male migrants
V30	Percentage of graduate and above among male migrants
V31	Percentage of high school and above among male migrant workers
V32	Percentage of graduate and above among male migrant workers
V33	Percentage of high school and above among female migrants
V34	Percentage of graduate and above among female migrants
V35	Percentage of high school and above among female migrant workers
V36	Percentage of graduate and above among female migrant workers

V37	Percentage of high school and above among male migrants ages 15–29
V38	Percentage of high school and above among female migrants, ages 15–29
V39	Work participation rate of male migrants
V40	Work participation rate of female migrants
V41	Work participation rate of male migrants, ages 15–29
V42	Work participation rate of female migrants, ages 15–29
V43	Percentage of male migrant workers in divisions 0–2
V44	Percentage of male migrant workers in division 5
V45	Percentage of male migrant workers in divisions 7–9
V46	Percentage of female migrant workers in divisions 0–2
V47	Percentage of female migrant workers in division 5
V48	Percentage of female migrant workers in divisions 7–9
V49	Percentage of total workers in secondary sector
V50	Percentage of total workers in trade, commerce, and transport sector
V51	Percentage of total workers in other services sector
V52	Percentage of male migrant workers in secondary sector
V53	Percentage of male migrant workers in trade, commerce, and transport sector
V54	Percentage of male migrant workers in other services sector

REFERENCES

Ahmad, Qazi Shakil

1965 *Indian Cities: Characteristics and Correlates.* Department of Geography, Research Paper No. 102. Chicago: University of Chicago.

Bulsara, Jal F.

1964 *Problems of Rapid Urbanisation in India.* Bombay: Popular Prakashan.

Census of India 1951

1954 Volume XII, Assam, Manipur, and Tripura. Part I-A, *Report.* Shillong: Superintendent of Census Operations.

Census of India 1961

1964 Volume XXV, Part I, *Pondicherry State, General Report.* Delhi: Manager of Publications.

Census of India 1971

1975 Series 1, India, Part II-A (i), *General Population Tables.* Delhi: Controller of Publications.

Census of India 1981

1984 Series 1, India, Part II-special, *Report and Tables Based on 5 Per Cent Sample Data.* Delhi: Controller of Publications.

Chauhan, D.S.

1966 *Trends of Urbanization in Agra.* Bombay: Allied Publishers.

De Jong, Gordon F., and Robert W. Gardner

1981 *Migration Decision Making.* New York: Pergamon Press.

Dhekney, B.R.

1960 *Hubli City: A Study in Urban Economic Life.* Dharwar: Karnataka University.

D'Souza, Victor S.

1968 *Social Structure of a Planned City–Chandigarh.* New Delhi: Orient Longmans Limited.

Duncan, Otis D., and Albert J. Reiss

1956 *Social Characteristics of Urban and Rural Communities 1950.* New York: John Wiley and Sons.

Fields, G.S.

1972 *Rural Urban Migration, Urban Unemployment and Underemployment, and Job Search Activities in LDC's.* Discussion Paper No. 168. New Haven: Economic Growth Center, Yale University.

Gore, M.S.

1970 *Inmigrants and Neighbourhoods: Two Aspects of Life in a Metropolitan City.* Bombay: Tata Institute of Social Sciences.

Goyal, R.P.

1975 Shifts in age at marriage in India between 1961 and 1971. *Demography India* 4(2), December.

Greenwood, Michael J.

1971 A regression analysis of migration to urban areas of a less-developed country: The case of India. *Journal of Regional Sciences* 11(2).

Harris, C.D.

1943 A functional classification of cities in the U.S.A. *Geographical Review* 33, January.

Harris, J.R., and M.P. Todaro

1970 Migration, unemployment and development: a two sector analysis. *The American Economic Review* 60(1).

India, Ministry of Works and Housing

1977 *Report of the Task Force on Planning and Development of Small and Medium Towns and Cities,* Volume I. New Delhi: Ministry of Works and Housing.

India, Planning Commission

1961 *Third Five Year Plan.* Delhi: Manager of Publications.

1970 *Fourth Five Year Plan 1969–74.* Delhi: Manager, Publications Branch.

1981 *Sixth Five Year Plan 1980–85.* New Delhi: Planning Commission.

1983 *Task Forces on Housing and Urban Development,* I, *Planning for Urban Development.* Delhi: Controller of Publications.

India, Town and Country Planning Organisation

1975 *National Urbanisation Policy.* Proceedings of the Meeting of the Expert Group on National Urbanisation Policy held on 28 January 1975, at Vigyan Bhawan, New Delhi. New Delhi: Town and Country Planning Organisation.

Iyengar, S. Kesava

1957 *A Socio-Economic Survey of Hyderabad-Secunderabad City Area.* Hyderabad: Indian Institute of Economics.

Johnson, G.E.

1971 The structure of rural-urban migration models. *Eastern Africa Economic Review* 1(1).

Lakdawala, D.T.

1963 *Wages and Well-being in an Indian Metropolis* (Economic Survey of Bombay City). Bombay University Series in Economics, No. 2. Bombay.

Lal, Amrit

1957 Some Characteristics of Indian Cities of Over 100,000 Inhabitants in 1951 with Special Reference to Their Occupational Structure and Functional Specialization. Unpublished Ph.D. dissertation, Department of Geography, Indiana University, Bloomington.

Lewis, W. Arthur

1954 Economic development with unlimited supplies of labour. *Manchester School of Economic and Social Studies* 22(2).

Mahmood, Aslam

1975 Patterns of Migration into Indian Cities and Their Socio-Economic Correlates–A Multivariate Regional Analysis. Unpublished M. Phil. dissertation, Centre for the Study of Regional Development, Jawaharlal Nehru University, New Delhi.

Malkani, H.C.

1957 *A Socio-Economic Survey of Baroda City.* Baroda: M.S. University of Baroda.

Mishra, B.R.

1959 *Report on Socio-Economic Survey of Jamshedpur City.* Patna: Patna University.

Mitra, Asok

1963 *Calcutta: India's City.* Calcutta: New Age Publishers.

1967a Internal Migration and Urbanization in India. Paper for the meeting of the ECAFE's Expert Working Group on Problems of Internal Migration and Urbanization, Bangkok (mimeographed). New Delhi: Office of the Registrar General, India.

1967b Internal migration and urbanization in India, 1961. In *International Union for the Scientific Study of Population: Contributed Papers.* Sydney Conference.

1970 *Delhi Capital City.* New Delhi: Thompson Press (India) Ltd.

Mitra, Asok, Shekhar Mukherji, and Ranendranath Bose

1980 *Indian Cities: Their Industrial Structure, Inmigration and Capital Investment 1961–71.* New Delhi: Abhinar Publications.

Modecki, J.

1975 Description of computer program EWPI-PSC-MAC III for performing multiple classification analysis of data in the form of case records (mimeographed). Honolulu: East-West Population Institute.

Pownall, L.L.

1953 The functions of New Zealand towns. *Annals of the Association of American Geographers* 47, December.

Premi, Mahendra K.

1980 *Urban Outmigration: A Study of Its Nature, Causes and Consequences.* New Delhi: Sterling Publishers Pvt. Ltd.

Rakesh Mohan and Chandrashekhar Pant

1982 Morphology of urbanisation in India: some results from 1981 Census. *Economic and Political Weekly* 17(38 and 39), September 18 and 25.

Ranis, G., and J.C.H. Fei

1961 A theory of economic development. *The American Economic Review* 51(4).

Rao, V.K.R.V., and P.B. Desai

1965 *Greater Delhi: A Study in Urbanisation–1940–1957.* Bombay: Asia Publishing House.

Sen, S.N.

1960 *The City of Calcutta.* Calcutta: Bookland Private Ltd.

Simmons, Alan, Sargio Diaz-Briquets, and Aprodicio A. Laquian

1977 *Social Change and Internal Migration.* Ottawa: International Development Research Centre.

Sovani, N.V., D.P. Apte, and R.G. Pendse

1956 *Poona: A Resurvey: The Changing Pattern of Employment and Earnings.* Publication No. 34. Poona: Gokhale Institute of Politics and Economics.

Todaro, M.P.

1968 An analysis of industrialization, employment and unemployment in LDCs. *Yale Economic Essays* 8(2).

1969 A model of labor migration and urban unemployment in less developed countries. *The American Economic Review* 59(1).

1971 Income expectations, rural-urban migration and employment in Africa. *International Labour Review* 104(5).

1975 Rural-urban migration, unemployment and job possibilities: recent theoretical and empirical research. In A.J. Coale (ed.), *Economic Factors in Population Growth.* London: Macmillan.

1976 *Internal Migration in Developing Countries.* Geneva: International Labour Organisation.

United Nations, Economic and Social Commission for Asia and the Pacific (ESCAP)

1977 *Report of the Expert Group Meeting on Migration and Human Settlements.* Asian Population Studies Series, No. 38. Bangkok.

Yap, Y.L.

1975 *Internal Migration in Less Developed Countries: A Survey of the Literature.* Bank Staff Working Paper No. 215. September. Washington: International Bank for Reconstruction and Development.

Zachariah, K.C.

1968 *Migrants in Greater Bombay.* Bombay: Asia Publishing House.

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Urbanization in China: new insights from the 1982 Census

Sidney Goldstein

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PREFACE

The research reported here was made possible through an Award for Advanced Study and Research from the Committee on Scholarly Communication with the People's Republic of China and support to the Population Studies and Training Center, Brown University, from the Ford Foundation, the Hewlett Foundation, and the American Express Foundation. Special thanks go to the Center for Population Research of the Chinese Academy of Social Sciences for assistance provided during fieldwork in China, and to Zhou Junli and Ma Rong, graduate students from the People's Republic of China in the Department of Sociology, Brown University, for assistance in preparing the census data for analysis. The collaboration of Alice Goldstein, both in the fieldwork and in the preparation of this report, is gratefully acknowledged. Thanks, too, to Norton Ginsburg and Chang-Tong Wu, who kindly shared their reactions to an earlier draft of the manuscript with us.

This is a revised version of a paper presented at the Workshop on China's 1982 Population Census, East-West Population Institute, December 2–8, 1984, Honolulu.

ABSTRACT The concerted efforts of the Chinese government to control population growth through its one-child family policy has understandably received worldwide attention. Less well known outside China is the considerable attention given by Chinese government officials at all levels to problems related to the rural-urban population distribution, the rates of urban growth, and the relations between employment opportunities and rural and urban development. These concerns have led to the emergence of a clearly and firmly articulated policy of strictly controlling the growth of big cities while encouraging the growth of small cities and the development of towns and commune centers into new urban centers.

The availability of data from the 1982 Chinese Census provides a unique opportunity to assess the patterns of urbanization in China and the changes that have occurred since the Census of 1953. My analysis documents that in the three and one-half decades since the establishment of the People's Republic, the urbanization level has risen slowly. Moreover, despite some changes in the urban hierarchy and some evidence of success in controlling big city growth, almost two-thirds of the total urban population remains concentrated in big cities, with almost 40 percent living in metropolises of 1 million and more. China's urban population also remains imbalanced in its geographic distribution, although the extent of the imbalance has diminished somewhat through efforts to achieve higher industrialization rates and urbanization and city development in the inland provinces.

The 1982 populations of cities, towns, and countryside are compared on a range of socio-demographic characteristics, including age and sex, labor force structure, and literacy. The analysis suggests that the 2,664 towns have already assumed a more urban character and that they are likely to play a key role in China's future urbanization. Their development is assessed within the larger efforts at modernization and urbanization and in light of policy developments in the 1980s, including institution of the responsibility system in agriculture and the establishment of economic development zones.

ISSUES AND POLICIES IN CHINA'S URBANIZATION

Urbanization in China, like China itself, has a long history. Through a good part of the 1,000 years from 800 to 1800, China contained the largest city in the world (United Nations, 1980:5). Indeed, China is also credited with having, in the eighth century, the first city in the world to exceed 1 million people–Changan (modern Xian) (Chandler and Fox, 1974). China briefly held the distinction of having the world's only million-plus city a second time, when, after other cities had declined, Beijing attained this size in the late eighteenth century, only to be succeeded soon after by London.

Neither urbanization nor big cities are therefore as new to China as they are to many other developing countries. Nor are problems of development and modernization. As Leung and Ginsburg (1980) have documented, problems of development and modernization confronted the governments of China more than 100 years before the Communist Revolution, and efforts to cope with these problems have involved a large variety of approaches. Nonetheless, it is the modernization process initiated by the People's Republic in the 35 years since its establishment in 1949 that has had the most sweeping impact on the nation as a whole. These efforts to modernize have had to confront, on a massive scale, demographic challenges similar to those faced by other developing countries–rapid population growth, substantial increases in the size of the urban and rural populations, and imbalances both in geographic distribution and in city growth rates.

In China, as in many other developing countries, considerable differences of opinion have emerged–and sometimes have even been reflected in practice–about urbanization's role in the development process and the extent to which urban growth should be controlled. Since 1949, urbanization policies in China at times conformed to the view that expansion of the modern sector requires some spatial polarization to obtain the economies of scale needed to ensure successful development. In view of the early insistence that urban-rural differentials must be leveled, that more emphasis must therefore be placed on rural development, and that cities tended to be seats of corruption and bourgeois influence, the role of cities, and especially big cities, has long been open to question (e.g., see Chiu, 1980). Nonetheless, in the years immediately following establishment of the PRC and during the period of the Great Leap Forward (1958–60), China's urbanization level rose substantially, reaching about 20 percent in 1960. Such development was not wholly inconsistent, however, with Maoist views as expressed in 1956, which, while stressing the importance of developing heavy industry especially in inland places, also recognized the potential of the existing coastal cities and the need to develop agriculture and light industry (Mao, 1977:1–6).

Thereafter, the underlying negative views about the effects of urbanization became dominant–ones more commensurate with the belief that polarization was inconsistent with long-run regional and national development goals. It was feared that such development would run the risk of both exacerbating the problems that big cities face in providing livelihood and adequate infrastructure to their residents and producing tremendous loss of human potential in rural areas and smaller urban locations. This view influenced the readjustment that followed in the early 1960s. Millions of urban residents were resettled in the countryside, resulting in a reduction in the urban population from its peak of 130.7 million in 1960 to 116.5 million in 1963. Overlooking problems of definition (see pp. 6–17), the reduction was short-lived. In 1966, at the beginning of the Cultural Revolution, a new urban population high of 133.1 million had been reached, and each successive year since then has produced a rise in the number of people living in urban places (State Statistical Bureau, 1983a:103). By the mid-1970s, the Cultural Revolution's heritage of a stress on industrialization and minimal attention to urban housing and infrastructural needs had resulted in severe conditions in cities even while their populations grew markedly.

This situation, coupled with the continuing rapid growth of the rural population, led China in 1980 to adopt a policy of planned urbanization that involves strict control of the growth of big cities. The strategy grows, in part, out of the belief, based both on China's own experience and on observation of the situations in other developing countries, that the too rapid growth of big cities gives rise to many problems related to housing, employment, and infrastructure. The concentration of both population and industrial activity in China's big cities has already aggravated shortages of land, water, energy, and transportation facilities. Sixty-five percent of the nation's industrial output value in 1981 was located in the 43 largest cities (Li, 1983).

The critical balance between population and arable land is a major consideration affecting urban policies and accounts in part for the decision in the late 1950s to give big cities control of the adjoining rural counties (Koshizawa, 1978:15). Through such control, each big city is able to ensure its own daily vegetable supplies and can also control the extent to which arable land is converted for housing and industrial purposes, thereby avoiding serious incursions into the city's ability to feed its population.

The official Chinese position is, therefore, that the number of big cities and the size of their populations need correction at the same time that the needs of China's 800 million rural masses must be met. Given this perspective, it is argued that urbanization must be harmonious with both industrial and agricultural development. The need to develop all three concurrently lies behind the basic urban policy of (a) strictly limiting the size of big cities; (b) properly developing medium-sized cities; and (c) encouraging the growth of small cities and market and agricultural towns (Ye, 1982; Zhu, 1981).[1] Li Mengbai (1983:9) has explained the rationale:

> In our circumstances, if only the big cities have good job opportunities, housing, schools, stores and services, and cultural and recreational facilities, then of course people will want to live there. But if all these things are developed in small and medium sized cities, people will be much more willing to live in these places and the population pressure on big cities will be eased.

In contrast to the big cities, medium- and small-sized cities are seen as having more space for industrial development and for housing needs for the resident labor force. Such cities are, therefore, increasingly becoming the locus of new efforts at industrialization. A potential danger here lies in the rapid pace at which some medium-sized cities are growing; the challenge will be to control their future growth lest they also are transformed into the big cities that Chinese policy is intended to avoid. Concern for excessive growth of medium-sized as well as big cities would seem particularly relevant in view of China's efforts, begun in 1984, to develop 14 coastal cities as centers for foreign economic activities. Interviews with Chinese officials indicate their awareness of the serious challenge posed by undertaking the economic development of these cities while continuing to control their population growth.[2]

Unlike big and medium-sized cities, which have generally been seen as the locations of heavy and light industry, smaller cities and towns are viewed as potential locations for handicraft and workshop activities with workers supplied largely from the rural surplus labor force. Such places, it is argued, require less government investment while they also serve as catalysts for changing rural populations into urban ones. What is perhaps most interesting about the stress on development of small places as the proper course of urbanization is the magnitude of the transformation that it would involve. Although planners recognize that any one town can absorb only a limited number of people, they point out that the large number of such places in China allows the aggregate effect to be great: If each of the nation's 2,100 county seats increased its population to 50,000 people, 39 million people would be absorbed into the current 61 million county town residents (Yę, 1982). And if each of the 54,000 commune seats increased to an average of only 5,000 persons, some 270 million would reside in these centers.

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[1] Big cities are defined as having 500,000 or more population; medium cities as having 200,000–499,999 inhabitants; and small cities as having fewer than 200,000 residents.

[2] See also pp. 68–70.

The comparative costs and difficulties of urbanizing in this way, rather than through allowing increased migration to big or even medium-sized cities, has been considered. The counter-arguments that bigger cities are more efficient due to locational considerations and availability of infrastructure are discounted, however, because China's social system is seen as able to compensate for these advantages by providing in smaller places adequate job opportunities, housing, schools, commercial activities, and recreational facilities. Whether, in fact, all of these amenities will be available in smaller places or whether persons living in smaller places and rural areas will be provided with easier access to city amenities remains to be demonstrated. What is clear is that existing policy is premised on the validity of this argument.

Despite growing attention in China to urbanization and the effects of migration, serious obstacles have hampered efforts to assess urban growth patterns and migration's role in this growth and in the alleviation of rural-urban disparities in the quality of life. Among the major obstacles have been (a) limitations inherent in the existing legal and conceptual views of what constitutes migration and urban places and (b) the lack of adequate data to assess both the nature of urbanization and the extent and type of population movement that characterize the urban and rural scenes. The 1982 Chinese Census marks a major advance in coping with some of these problems, both in the attention it has given to definitional concerns and in the wealth of data it has collected.

In exploiting the data that have already become available in the early publications from the census (SSB, 1982; 1983b), this paper attempts to gain insights into China's urbanization patterns in relation to the Chinese policy of controlled urban growth. In doing so, the report also makes limited use of material and insights gained as part of three months of field research on the ways in which the agricultural responsibility system adopted in rural locations has affected population movement and urbanization in China.

DEFINING URBAN PLACES AND THE URBAN POPULATION

Considerable confusion has characterized reports on the size of China's urban population since 1949, in large part because varying definitions of urban place and urban population have been used. Unlike a number of other countries, China has relied not only on criteria related to minimal numbers in a given location or to the percentage of individuals engaged in nonagricultural activity. In China, the definition of urban also has been affected by a unique perspective for viewing the urban population—a perspective based largely on a combination of where people live and who is responsible for providing their grain needs. But this has not always been the case, nor even consistently so at a particular point in time.

Defining urban and rural places

According to Ernest Ni (1960), no definition of rural and urban was given in Chinese sources until 1955. However, both in the data on urban places by size class and in the absence of any sharp changes in the urban population in annual statistics covering the period 1949–1956, indicators suggest that the definition employed by the State Council in 1955 was quite similar to that used by the 1953 Census. According to the 1955 definition, a place was urban if it: (1) had a municipal people's committee or was the seat for a people's committee at the *xien* (county) level or above; (2) had a permanent population of 2,000 or more, of which at least 50 percent were in nonagriculture; or (3) had a permanent population between 1,000 and 2,000, of which at least 75 percent were nonagricultural, and concurrently was also a commercial, industrial, education, health, or communication center (Ni, 1960:3). Evidently, in minority areas a town could also qualify as an urban place if it had a population of fewer than 2,000 inhabitants, a considerable number of whom were engaged in industry or commerce (Ullman, 1961:4). This combination of criteria yielded a total of 5,568 urban places in the 1953 Census, of which 164 were municipalities of 20,000 population and more. Of the 5,404 towns, 256 had between 20,000 and 100,000 population, and the remaining 5,148 had fewer than 20,000 inhabitants, including 193 towns with fewer than 1,000 people.

The total population living in the 164 cities and 5,404 other urban places was not the equivalent of the urban population. Of the 52.3 million people in cities, 43.5 million, or 83 percent, were classified as urban, the rest presumably being classified as rural on the basis of economic activity. In other urban places (towns), 33.7 million, or 95 percent of the 35.3 million residents, were urban, suggesting that the larger places were more overbounded than the smaller ones and therefore included more rural people. In all, therefore, the 1953 Census identified 77.3 million, or 13.3 percent, of China's 582.6 million population as urban.

For the 1964 Census, the criteria were changed. In December 1963, the State Council specified that:

1. An area could be designated a town if industries, commerce, and handicraft trades were relatively concentrated and if the area had a population of more than 3,000 with 70 percent being nonagricultural.
2. An area could be designated as a town if it had a population between 2,500 and 3,000 with more than 85 percent being nonagricultural and requiring the direct administration of the county government.
3. However, places where minority nationality people lived could also be designated as towns if industries, commerce, and handicraft trades were concentrated there and direct administration was needed, even though the population was under 3,000 and less than 70 percent was engaged in nonagricultural production.
4. Designated as cities were places with populations of more than 100,000 or places of fewer than 100,000 that were provincial capitals, heavy industrial bases, fairly big centers for gathering and distributing goods and materials, or important towns in border areas that required the direct administration of the provincial or regional authorities (Ma, 1984:12–13).[3]

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[3] In China, one important way of ranking cities is by their administrative status. The highest ranking cities–municipalities–are those administratively placed under the direct control of the central government. Only three cities–Beijing, Shanghai, and Tianjin–rank as municipalities. Each has been given status equal to that of a province and has under its jurisdiction both the districts of the inner city and several rural counties. In each of these municipalities, a majority